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Sarah Joyce

**TOWARDS A NEW ARCHITECTURAL UNDERSTANDING OF BIRTH SPACES
GROUNDED IN WOMEN'S EXPERIENCES OF GIVING BIRTH**

A thesis submitted in partial fulfilment of the requirements for the degree of
Doctor of Philosophy

The University of Sheffield
Faculty of Social Science
School of Architecture
And
Faculty of Medicine, Dentistry and Health
School of Nursing and Midwifery

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ABSTRACT

This thesis proposes a new philosophy of birth space design that values the diverse spatial practices and space-based experiences of childbearing women, across all types of birth venues and experiences of birth. The research aligns with the philosophy of woman-centred maternity care. It critically examines this as an intervention imposed on to a pre-existing medical system of care - a system which, in turn, influences the techno-rational basis of healthcare evidence-based architecture and the tendency for researchers to investigate the birth environment in quantifiable ways. The thesis proposes that birth space should be interrogated in a number of new qualitative ways: by user experience-based spatial design starting with the interiors of buildings; by examining women's patterns of use of space over time, especially in relation to social interactions; and by interpreting space-based experiences within women's birth stories. The literature review draws from a wide-range of literature: architectural, spatial, birth-environment, social theory, midwifery, obstetrics and policy documents. It critiques the naive readings of homely, control, safety and risk, and architecture understood as a techno-rational domain, in the extant research relating to birth spaces.

This thesis has an interpretative methodology that crosses disciplinary boundaries, and the definitions of architectural space and childbirth, that have previously limited knowledge of birth spaces. The nature of what is appropriate evidence for design, the spatial understanding afforded by using visual qualitative methods, semiotic meaning within policy documents, the nature of personal experiences of childbirth, and the application of a critical spatial methodology to birth spaces, all inform the selection of methods.

Representations of architecture are used to interpret the social and spatial meaning that architecture represents to birth space producers and users. Spatial practices for producing birth spaces are interpreted from the three policy design guidance documents commonly used in the context of maternity care in the UK; and the spatial practices of childbearing women are interpreted from the experiences of twenty-four women who took part in qualitative interviews. The transcripts, policy guidance documents and drawings were thematically-analysed and the visual data was also examined as semiotic materials.

The findings demonstrate that birth spaces are *prosumed* and *curated* by women. Birth space is experienced as a socially-situated progression through time - and not contained within one room as current guidance implies. Women's spatial experiences are embodied and influenced by prior experience and expectations of birth venues. Space is experienced in multiple ways (visually, via perceived affordances, and via movement) that are contingent on the venue. Experiences of waiting and of labour as a 'physical journey' are both spatially significant. Women want to use spatial strategies to self-manage the ebb and flow of companionship in labour. Women build personally-meaningful intergenerational stories from where birth took place.

The discussion chapter develops spatial insights into the design guidance and maternity policy goals (choice, control, continuity of carer and personalised care) from the interpretation of women's experiences. The thesis creates a new critical understanding of the value of social architecture for improving midwifery practice and women's birth experiences. Practical recommendations to be applied to existing maternity spaces are proposed. Existing spatial and social theory is applied to the new area of birth space, and its lacunae identified. The thesis concludes with a new situated spatial theory derived from women's experiences of childbirth as inspiration for much needed further interdisciplinary research and design development in this area.

ACKNOWLEDGEMENTS

I was a lone researcher, but most definitely not alone in completing this thesis. A massive thank you to all the people along the way who said 'yes':

*First and foremost thank you to **each woman** that took part in the interviews. It was a privilege to be welcomed by you and listen as you shared your story.*

***Professor Rosie Parnell** who chased me to submit a PhD proposal to the University of Sheffield: I felt too busy with family life to write the proposal and now I've written a thesis;*

***The University of Sheffield** for saying yes to my research proposal and funding the research through a Faculty of Social Sciences scholarship;*

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***The "crowd readers":** I am lucky that so many friends proofread in their work life, are academics, or have birth-related careers. Thank you for actually wanting to proofread, discuss, challenge and correct my work. There were 26 of you and you know who you are! A special thank you goes to those who read the same chapter more than once.*

***My husband Mark** for taking lone holidays with the kids in the school holidays to provide childcare for writing up. Then single-handedly cooking, shopping and ironing whilst all the time patiently listening to all my work-related moaning;*

***My eldest son** for starting early morning swimming training in the middle of my PhD: I got into a good morning work routine with those 4.15am alarm calls in order to fit everything around school hours. I'm not sure how I will continue to complete research without the smell of chlorine and the sound of swimmers splashing up and down a pool;*

***Mark, Andy, John, Melissa and Lisa:** you kept me sane by inspiring me to count to 10,000 steps a day and do an insane amount of running, even in nylon Santa suits on a cold November Sunday in Skipton. It's a half marathon next;*

***Chris and Cathy at Niche Design Architects (not forgetting Jasper our office dog):** a special thank you for your patience and kindness with a continuous supply of latte coffee. I will be in the office more often now.*

***Everyone who asked** how I was getting on, not really sure what a PhD was, or why a middle-aged mother-of-four would go back to university when she looked perfectly well-qualified: thank you for asking and yes, I have finished that course now.*

I have been deeply touched by the enthusiasm and interest of others in the subject too. I guess this is because an experience of birth has the potential to touch everyone's lives. I am thankful to the people I know through the NCT and local birthing communities who took part in pilots, read things, sent me things to read and cheered me on throughout. I am especially grateful for the input of Mary Newburn and Rachel Plachcinski.

My naive enthusiasm for new and interesting ventures means that my life has taken a number of significant and unexpected turns. I "fell" into starting a PhD after a gap from academic studies: at the time I worked part-time as an architect and antenatal teacher, and spent the rest of the time "being a mum". It turns out that a PhD is a long haul and I'm not sure why I didn't figure that out much earlier on. This thesis is different to the one that I imagined I would submit when I wrote my proposal in late 2012, and I am glad of that. I expected to be changed by the experience and I have been.

I am writing this acknowledgement at my dining room table whilst looking at a picture I placed on the wall to inspire my four children. The picture contains some wise words from the Queen of Hearts in Lewis Carroll's 'Alice through the looking glass.' When I applied for this PhD, my youngest daughter was 9 months old. My, now 5-years-old youngest daughter, independently read those words for the first time last week: 'Sometimes I've believed as many as six impossible things before breakfast'. Well, this impossible thing is now done.

My four children - this is for you.

*Thank you for never questioning why your mum would be writing a PhD when none of your friends' mums were quite so busy. Through knowing you, I have come to the realisation that all children deserve a good birth, whatever that might be. Dividing my time between work and family life over the last four years has contributed to the length of this thesis. As the French philosopher, Blaise Pascal observed in 1656: "Je n'ai fait celle-ci plus longue que parce que, je n'ai pas eu le loisir de la faire plus courte."**

Also, for Thomas, who will never be forgotten, and inspires me to live life to the full.

**This is the literal English translation of the French: I made this one longer only because I have not had the leisure to make it shorter.*

NOTES TO READER

Note 1 Terminology used for the physical setting of labour and birth

A consensus on the terminology for, and definition of, the physical setting for labour and birth is elusive in research literature. The range of available definitions proposed by authors is discussed in section 3.3. For the purposes of clarity, the following terms are used in throughout the thesis:

- **birth environment:** existing research investigating the physical setting of labour and birth is referred to using the term *birth environment*. Scholars primarily use this term to mean the physical aspects of a room that relate to clinical care of a woman or physiological birth. When using the term *environment*, it is acknowledged that this term has different disciplinary interpretations: and primarily means a clinical care working-environment inclusive of people in midwifery, and the physical setting in architecture.
- **birth venue:** is used for research that investigates the overall setting, such as a hospital, birth centre or house as buildings, rather than birth rooms.
- **birth space:** where research reports a study of *spatial* aspects of a physical setting, then this is referred to as *birth space*.
- **this thesis study investigates birth space:** which is understood as part of a *birth venue*, and, therefore, throughout the thesis the text focuses on the implications of findings for birth spaces.

Note 2 Conventions used for reporting the interview data

Where I share extracts from the transcripts and drawings, the women is identified with their pseudonym (e.g. Aven) and the birth venue (e.g. CLU1). Section 6.2 explains these in more detail.

Transcript extracts

The type of birth is shared if this was relevant to the type of space where the birth took place:

- **Induced:** a medical induction is the artificial stimulation of uterine contractions during pregnancy before spontaneous labour begins and commonly takes place in a ward setting within a hospital, but also in hospital birth rooms.
- **C/S:** a caesarean birth that is a surgical birth that takes place in a hospital operating theatre.
- **General:** a caesarean birth where the woman is not conscious through the use of General anaesthetic.
- **Forceps:** a birth where an obstetrician assisted a woman to give birth using forceps (can take place in a hospital birth room or operating theatre).
- **Water:** a birth in water (takes place in a birthing pool either in a hospital birth room or at home).
- **Unplanned:** in the context of the thesis study, unplanned means that the woman gave birth in a different venue to the one she intended, for example, in hospital when she planned a home birth, and vice versa.
- Where no type of birth is shared, this was a straightforward vaginal birth.

Where text has been omitted to condense a quotation, this is indicated as ... for a short section and (...) for a long section of text. Expressions such as “um, er” have been removed to improve clarity. Where my words are included, these are in grey text and prefaced with //SJ. Words that a woman emphasised in her intonation are shown in bold and italic text. Text shown in [] is descriptive text added to convey more clearly the meaning of an extract.

Drawing extracts

Where I share extracts from the women’s drawings, I overlay **red text and symbols** on the drawing to highlight aspects discussed in the text.

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Figures 5.2, 5.3, 5.5, 5.7, 5.9, 5.11, 5.12 taken from *Children, young people and maternity services Health Building Note 09-02: Maternity care facilities* (Department of Health, 2013a)

Figures 5.6, 5.10 taken from the *NCT Better Birth Environment Audit Toolkit* (Newburn & Singh, 2003a)

Figures that are tables summarising information are referenced with the source of this data in the title to the figure. All figures in Chapters 6-10 are created by the research participants and re-produced with permission in this thesis document.

'Reframe the Architect more as a co-creator who facilitates an awareness and shares understanding of built environment issues with others, than as a powerful leader with a monopoly on knowledge'

Nowotny et al. 2001, p.215

INTRODUCTION

The Section dividers are a personal reflective response to the content of the thesis. (see Section 1.4 Reflexivity)

CHAPTER 1

INTRODUCING THE RESEARCHER AND THE RESEARCH

1.1 CHAPTER OUTLINE

This chapter presents my motivation for study, my positionality and reflexivity¹, and significant aspects of birth space and architecture that led to the research aim and objectives also presented here. The chapter ends with an outline of the thesis chapters.

1.2 MOTIVATION FOR STUDY

This is a good time to research the design of birth spaces. Considerable interest in the role of birth venues in clinical and social birth outcomes is evident in research studies and policy documents (Brocklehurst et al., 2011; National Maternity Review, 2016; R.C.M. Evidence-based guidelines, 2012). For the first time in the history of the NHS, the Department of Health recently released capital funding specifically for maternity unit design: *Improving Birthing Environments* (Department of Health, 2012) and *Improving Maternity Settings* (Department of Health, 2013b). Recent maternity policy values social aspects of care (personalised and woman-centred care) as means to improve UK maternity services (in the 2016 publication of the UK Government National Maternity Review, *Better Births*). In this thesis, I explore whether women's childbirth experiences can be used both to inform our understanding of existing birth spaces, and to inspire the design of woman-centred spaces in the future.

The warrant for this thesis emerged from my life experience: as an architect, antenatal teacher, a volunteer campaigning for improvements in maternity services and a woman who has given birth five times in three different buildings. I explain the thesis mandate with a story from 2012 of a design meeting attended at my local hospital in my voluntary role as an NHS maternity service user representative. This meeting was arranged to discuss the planned refurbishment of midwife-led rooms funded by the Department of Health 2012 capital funding scheme:

¹ The phrasing 'positionality and reflexivity' acknowledges the work of Bourdieu (1990) and Wacquant (2014) as a methodological base for social science research.

From 2008, I worked with midwifery staff at my local maternity unit to improve the birth rooms for normal birth and used my architectural skills to help them win funding from the Department of Health programme for improving birthing environments (late 2012). I was not asked to be involved in the initial stages of the refurbishment design. One family tea-time, I took a telephone call: could I come in the next morning for a meeting on the design of the new midwifery-led rooms and meet the architects working on the project?

I felt excited at my opportunity to make a difference and challenged by childcare arrangements, dropping off at school and getting to the hospital on time. My excitement was unfounded: I had been asked to arrive as the meeting ended. I was greeted enthusiastically, but it was clear that all the big design decisions were already made. I took my seat at the table, so that the architect could show me the mood boards of proposed materials and colours. The midwife chairing the meeting turned and said, "I'm glad you're here, Sarah, because you can decide on the colour of the rooms: which of these greens do you like the most?"

My own muted and disengaged experience of user participation echoes architect Jeremy Till's attendance at an architecture-related community consultation meeting in a church hall. This led him to question whether this type of user participation is better than none. He notes:

Under the guise of inclusion, the same old patterns of power repeat themselves, defeating the expectations of the participant citizens in actually gaining themselves anything better, and distancing them from the real processes of spatial production. (Till, 2013, p. 24)

Next, my user involvement for the scheme was an interview featured in a local newspaper article. In the press release, the project team stated they were satisfied they had incorporated women's views through my somewhat minimal involvement and that their refurbished venue would attract more women as a more *homely* birthing unit. Much of this puzzled me as an architect, as well as a mother and an antenatal teacher. How did the project team know that more homely birth spaces were a good idea, and how did they assess whether the completed design achieved this? Why would women choose between venues based on the attractiveness of the rooms?

I wanted to know the evidence-base for these claims and what difference women's actual experiences could make to the design of birth spaces. I sit on local and regional maternity-related committees and belong to a national network of maternity service user representatives. Stories from other service user representatives suggest a reliance on midwife-led (not woman-led) literature, theory and practice and little available evidence about women's spatial experience during labour and birth.

As an architect I had begun to think spatially about my knowledge of labour behaviour through my antenatal teaching. For example, in a hospital context how do women meet the

social need for private withdrawal in labour, identified by anthropological and evolutionary studies (Trevathan & McKenna, 1994)? What are the social situations that labouring women experience because of the building context, and what is their impact on, for example, the release of birth hormones (Bartz, Zaki, Bolger, & Ochsner, 2011; Domes, Heinrichs, Michel, Berger, & Herpertz, 2007; Heinrichs, Baumgartner, Kirschbaum, & Ehlert, 2003) and thus, impact on their birth experience (Odent, 2007a)? Ultimately, I wanted to know how all these social, spatial and physiological aspects of labour combine in the space.

This thesis grounds the consideration of birth spaces in women's experiences of giving birth, and within the existing policy and practice context. The publication of the UK Government's *Winterton Report* (1992) started a slow policy shift towards woman-centred² maternity care. The initiators of change within maternity policy have tended to be midwifery- and user group-based campaigners who present a need for change through research evidence³. The thesis proposes that the architect can also be seen as an initiator of change in this area. Recent change in architectural theory points to an opportunity here for architectural scholars to communicate the spatial and design implications of engaging with this woman-centred shift. Petrescu and Trogal note that when architecture is examined as being socially-reproduced then there is a shift away from seeing architecture as a question of 'form, surface, style or even structure' (2017, p.4). To approach architecture in this way is to acknowledge that its production has radically altered in the last few decades and that architects need to work upon the 'ecological, economic, collaborative and processual aspects of making space' (Ibid.).

The thesis title is a re-appropriation of 'Towards ...' in order to draw attention to the potential of transdisciplinary and collaborative forms of architectural practice. It expresses the desire to create situated and person-centred design for the 'ordered chaos' (Winter & Duff, 2009) that is the experience of childbirth. Architectural manifestos that use 'Towards ...' in the title originated as part of the body of work of autonomous male "star" architects. Jeremy Till notes that architects have traditionally 'retreated into an autonomous realm' with a distinct culture of the architect with 'maintained barriers behind which an ordered world can be erected' (Till, 2009, p.5). Thus, this thesis is a challenge to my own training as an architect as I seek to find a new way to practice.

² The Royal College of Midwives defines woman-centred care as:

'A philosophy of maternity care that gives priority to the wishes and needs of the user, and emphasises the importance of informed choice, continuity of care, user involvement, clinical effectiveness, responsiveness and accessibility' (Royal College of Midwives, 2008, p.1).

³ Examples are the Brocklehurst et al. (2011) study and the Bourke (2013) study conducted in conjunction with the NCT and Women's Institute.

1.3 POSITIONALITY

My relationship with birth spaces is constructed through the complex mix of my positions as researcher, antenatal teacher, architect and user. Thus, I explain my researcher position for the thesis as a form of ‘social gravity towards specific forms of endeavour’ (Threadgold, 2017) based on the ‘accumulation’ of my being (Ibid.). This position acknowledges positionality and habitus as a method of inquiry in social science research (Bourdieu, 1990; Wacquant 2014). I reflected upon my position throughout the research process, aware of my experience as a producer (architect and service user representative), ‘prosumer’⁴ (home birth) and consumer (hospital and birth centre) of birth space.

This section presents my profile photo (Figure 1.1) and documents aspects of my researcher background that have particular relevance to the research methodology. This communicates my desire to place the research within a person-centred (Rogers, 1986), compassionate worldview. In 2014, Dr Kate Granger started the NHS campaign ‘Hello my name is ...’ to encourage and remind healthcare staff of the importance of introductions in making human

Figure 1.1 My profile photo



connections as ‘the first rung on the ladder to providing truly person-centred, compassionate care’ (Granger, 2014). The thesis has an interpretivist methodology that values the view of research participants. Thus, bridging this gulf that I experienced as a service user between producers and consumers of birth space, and dissolving ‘the distance between the researcher and those with whom the research is done’ (Olesen, 2008, p. 331).

This is not a disinterested piece of scholarship, and I write in the hope of engaging with scholarly debate and evidence-based practices to facilitate better birthing experiences for all women. UK birth practices are politicised (Nolan, 2010). Architecture has been described as ‘not good’ at being political or at engaging with politicised issues in contemporary society (Brown, 2016). This thesis is an architect’s exploration of how architecture can be transformative in this context.

My “user of space” experience drives the architecture of this thesis far more than my “producer of space” experience. In many respects the research has been an architectural re-education. Through completing the PhD process, I came to the realisation that my architectural training (1990-1998) had unconsciously developed my professional expertise within a particular social context. My context as an architect is in ‘relation to the history of white,

⁴ The term ‘prosumer’ is attributed to Alvin Toffler (1980) and used to describe the combined social acts of production and consumption and used in the thesis conclusion in relation to presumption of birth space.

heterosexual, Euro-American male consciousness’ (Kane Weismann, 1996, p.279) with knowledge of the seminal buildings and leading male “star” architects of the Twentieth-Century (for example Le Corbusier, Frank Lloyd Wright, Mies van der Rohe). Like Franck and Lepori, I take the ‘attitude’ that people are ‘the very reasons for architecture to exist at all’ (2000, p. 5). Some forms of architecture have moved on from a traditional understanding as ‘self-contained objects in terms of style and aesthetics’ designed by professional architects (Borden, Penner, Rendell, 2002, p.3). The understanding that informs my position in this thesis is that of architecture as ‘perception, use, appropriation and occupation’ (Ibid.).

The desire to explore architecture, through experience stems from knowing that my personal experiences of spaces as a labouring woman, felt dissonant with the understanding of architecture that I gained from my training. I believe re-assessing one’s training and being inspired by lived experience (my own and that of others’) is necessary for changing the way birth spaces are designed. Insights I gained from my own childbirth experiences that led to re-training as an antenatal teacher and my campaigning work as a maternity service user representative, connect me to the politics of improving maternity services. My own path resonates with Ockman’s proposition: ‘the architect’s only option is to find a course for revolutionary praxis outside the traditional boundaries of [her] field’ (Ockman 1997 cited in Rendell 2006, p. 191).

1.4 REFLEXIVITY

Reflective practice (Braun & Clarke, 2013; Bolton, 2010; Mason, 2002) originates from my antenatal teaching and is an integral part of this thesis. I understand reflection as a multi-faceted process integral to the process of research and analytical thinking; it is especially complex in this thesis with the many roles I bring to the research. I share reflective writing throughout the thesis: here in Chapter 1, leading to reflections on my researcher position in the methodology (Chapter 4) where my practice of using research diaries is explained, and finally as an integral part of the thesis conclusions (Chapter 12). Also as part of the reflective writing, my personal visual reflections are shared as *Section dividers* placed at the beginning of each major shift in focus within the document⁵.

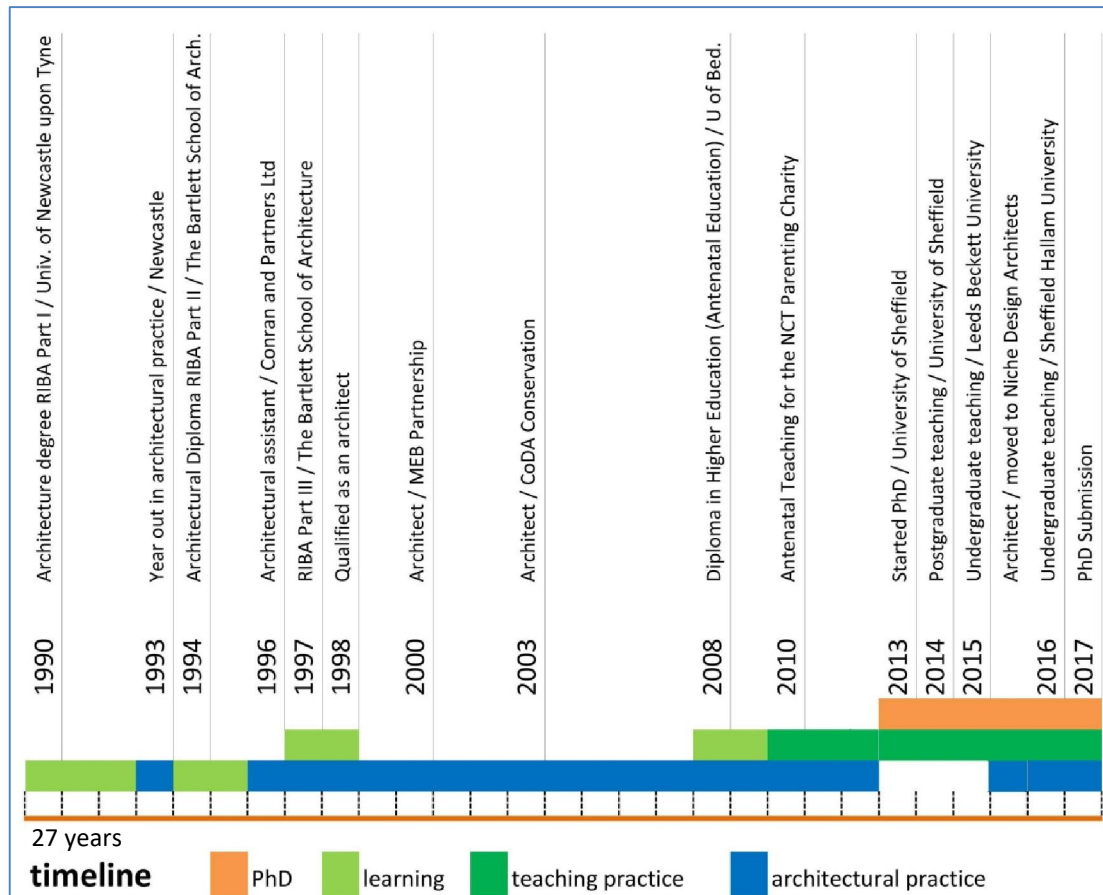
The training I received for my antenatal teaching role encouraged reflection upon personal experiences that may be similar to those of clients, for example, birth experiences and experiences of family life or loss. This approach resonates with Foucault’s thinking in his ‘genealogy of confession’ (2003a, 2003b, 2005). In this section, I focus on knowledge of the self

⁵ These are introduction, contextual work, methodology and methods, findings, discussion and conclusion.

as the fundamental pre-requisite for research (Foucault's 'care of the self' (2003a)). Later in the methodology (Chapter 4) I consider reflection as both a practice of knowing and shaping oneself - Johns' 'way of being' (2005) - and as an emancipatory act for practitioners like myself to be 'researchers and theorists in their own right' (Rolfe & Gardner, 2006, p.599). In the thesis, I use "reflection-on-experience" as a recognised means to initiate changes in practice (Rolfe & Gardner, 2006).

In the thesis I have extended my reflective practices to incorporate a similar practice to that of Jane Rendell, who proposes 'site-writing' (2010) as part of architectural / spatial practice. Rendell (2016) separates her reflective work into *bios* – a set of diary notes with personal reflections on her practice, and *logos* – developing her own intellectual work and concepts through relating these to those generated by others. I took the bios and logos approaches for structuring my ongoing reflective journal and within the thesis I draw upon and provide examples from this journal in order to make visible my position and its influence on my interpretation.

The timing of this thesis and the policy and practice context within which it resides also connects to my personal experience. My five births over a ten-year period straddle major changes in maternity policy and the publication of significant literature that inform this thesis. At the time I lived through some of the implications of that context but was not fully aware of it; I was too busy becoming a mother. I believe in the positive impact design can have on the social reality of people's lives and an architect's responsibility towards the users of their creations. This is why as an 18-year-old going to university I chose architecture. The four figures below (*Figure 1.2; 1.3; 1.4; 1.5*) are visual explorations and reflections of the experience and attitudes that I had when starting the PhD process.

Figure 1.2 My professional training and experience summarised as a timeline**Figure 1.3 Experiences as a mother and birth practitioner**

(Taken from my research diary November 2013)

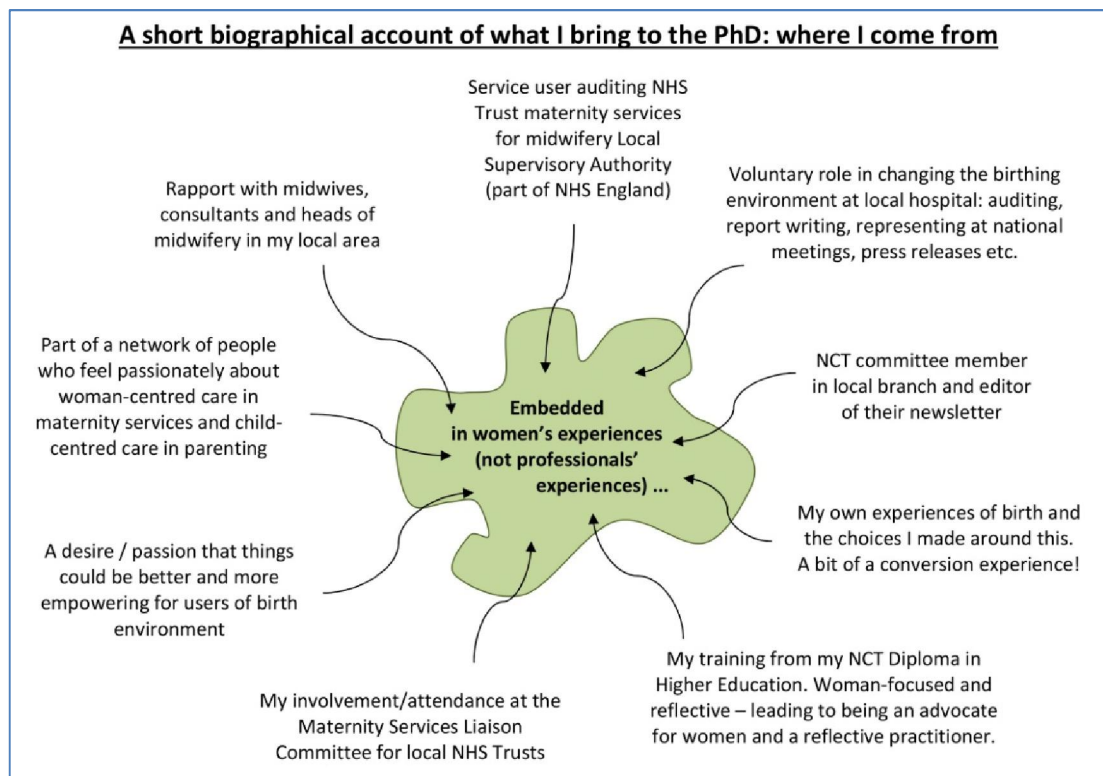
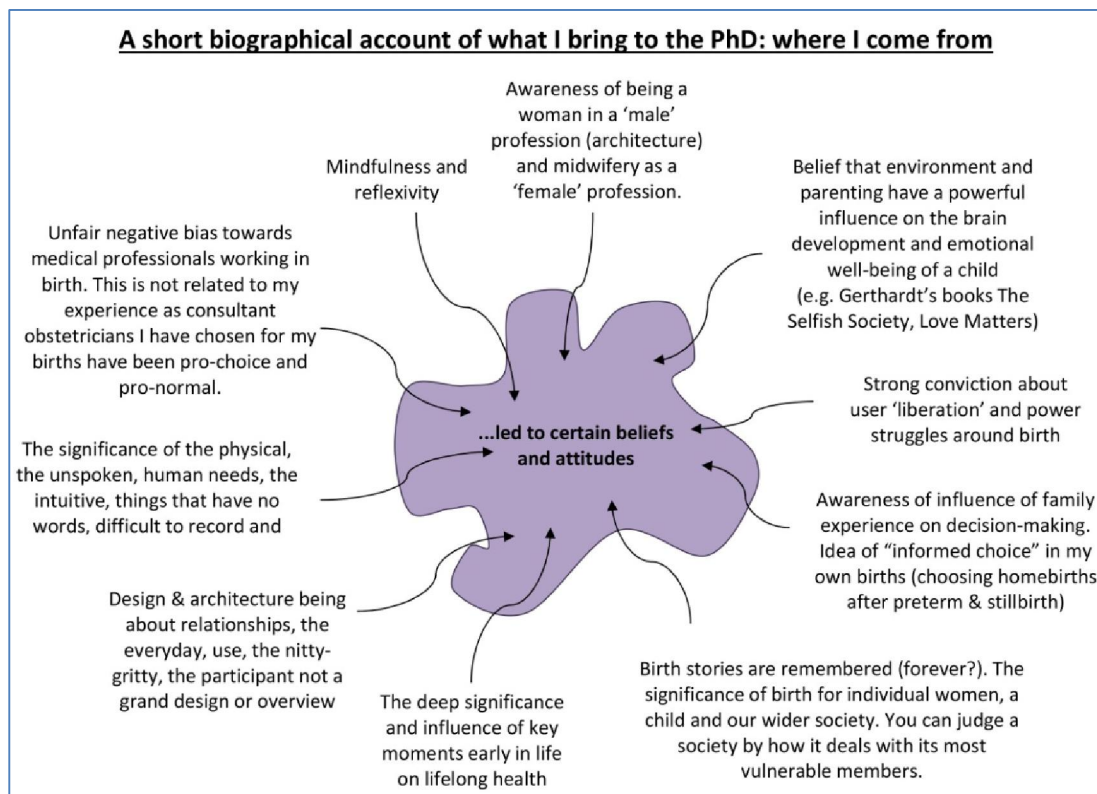
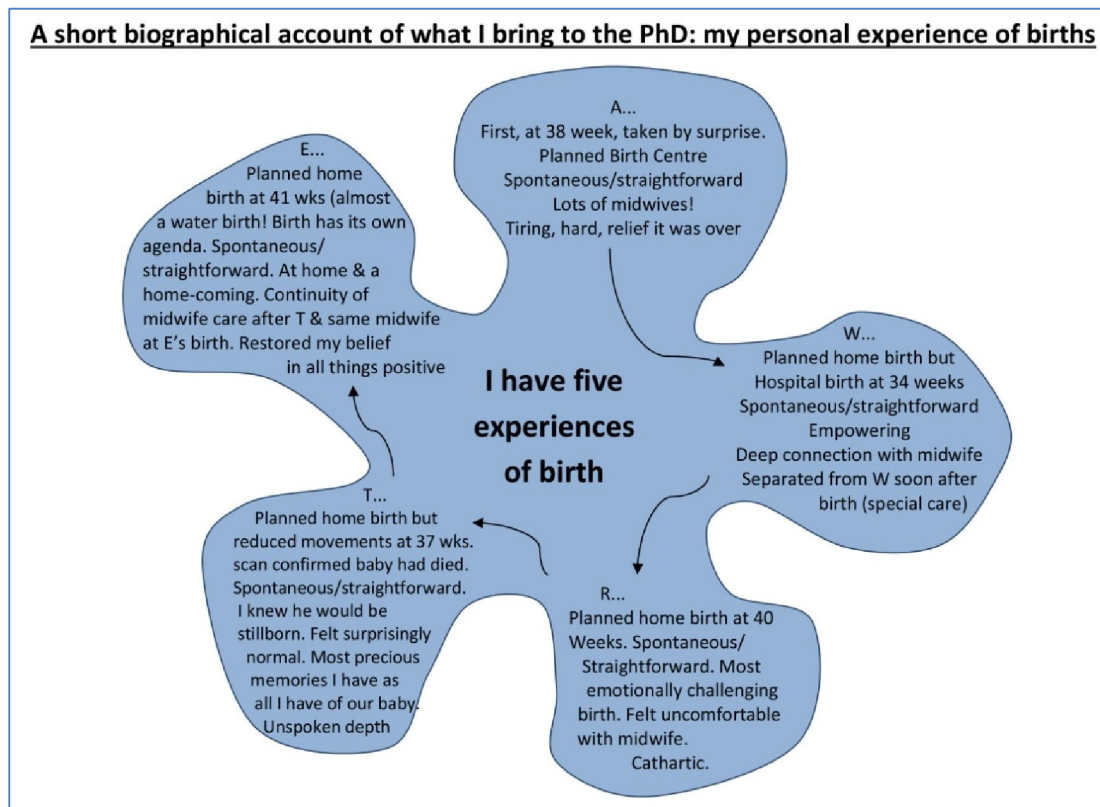


Figure 1.4 My views and influences at the beginning of the PhD in 2013

(Taken from my research diary November 2013)

**Figure 1.5 A reflective summary of my five birth experiences**

(Taken from my research diary November 2013)



1.5 BIRTH SPACE AND ARCHITECTURE

All architecture is informed by its context (Borden, Penner and Rendell, 2002) and birth spaces are no exception. Architectural practice is understood in the thesis as a process that extends beyond the design of buildings. Architecture is here understood to exist in experiencing and using space and all its forms of representation, analysis and interrogation in writing and imaging (Rendell, 2016a).

The thesis methodology considers a broad context of theory and ‘practice-based’ research that is evident in architecture within academia (Rendell, 2016a); this research has a more wide-ranging definition of evidence than the research which currently influences healthcare design practice. Lefebvre and de Certeau’s writings on spatial practice, as well as writings rooted in feminist theory, influence practice-led theory for architecture (Rendell, 2016a). This form of theory is also acknowledged here as a potential influence on birth space. Architectural critical spatial practice –such as that evident in the work of feminist architectural theorist-practitioners (such as Rendell, Petrescu, Schneider, Frichot) – has not informed birth-environment researchers who have instead sought relevant theory primarily through social theorists’ work on power and control (Foucault in Fahy, 2008b for example).

Critical spatial practices are radical and interdisciplinary (Rendell, 2012; Brown, 2016), situated and speculative (Doucet and Frichot, 2018), diverse, performative and embodied (Rendell, 2012). This PhD fits with this description, but is not presented as “a piece of feminist architectural research.” It is *situated* research, but does not necessarily align with one prescribed critical framework. It is necessarily interdisciplinary. Critical theories can be reflective upon methods and process (Geuss, 1981). They ‘seek to transform rather than describe’ (Rendell, 2012, p.92); they do not “objectify” the subject of study, as is common within positivist research traditions.

Architectural theory continues to evolve as the social context evolves: ‘there is growing attention to praxis, materiality and hybrid processes rather than fixed “positions”’ (Cairns, Crysler, Heynen, Wright, 2012, p.1). Speculative forms of architectural practice (Petrescu and Trogal, 2017) are seen as appropriate in order to engage with the types of challenge present in the rhetoric of maternity care policy. The site of birth and birth practices are contested (Balabanoff, 2016; Reiger & Lane, 2012; Edwards, 2005; Mander & Murphy-Lawless, 2018). The spatial context for birth as an inherently female experience is that of an architectural value system of primarily ‘man-made’ environments (Kane Weismann, 1992).

Critical spatial theory values diversity and speculation. In contrast to the ‘evidence-base’ determining healthcare and healthcare architecture used to inform standardised practices across healthcare settings. A number of theoretical binary oppositions influence the

production of birth spaces: medical versus social models of childbirth; domestic versus clinical environment; natural versus artificial; professional versus user; female versus male domains; architecture versus interiors. Architecture as a historically visual aesthetic practice and childbirth as a historically private affair also create a unique context for birth space and women's experiences.

Anthropologists (McCourt et al., 2012), sociologists (Reiger and Lane, 2012) psychologists (Bradley et al., 2008), geographers (Bourgeault et al., 2012) and architects (Lepori, 2008) have all recently collaborated with midwives in researching childbirth. At the time of writing, birth-environment research is moving towards a visual- and experience-basis for knowledge through visual media use in studies to explore midwives and woman's experiences of childbirth practices; with increased interest in collaborative and interdisciplinary working (Balabanoff, 2016; Foureur & Davis Harte, 2017; Mondy et al., 2016).

1.6 RESEARCH AIM AND OBJECTIVES

The research aim for the study is:

To understand how women experience the places where they labour and give birth in order to inform the design of birth spaces.

To meet this aim, I address the following objectives, to:

1. **explore how women experience spaces during labour and giving birth.**
2. **identify any personal significance women perceive or associate with these spaces and the events that take place in them.**
3. **appraise current design recommendations for the spaces where women labour and give birth, in the light of the findings from this research.**

A brief discussion of the scope of these aims and objectives is in Section 4.2.1.

1.7 OUTLINE OF THE THESIS

Chapter 2: The policy and practice context describes the historical UK policy and practice context to examine the development of woman-centred maternity care within policy, and evidence-based healthcare architecture as the main approach for building maternity facilities in the UK.

Chapter 3: Literature review: Women at the centre of birth and space discusses the implications of woman-centred care, as a critique of a medical techno-rational approach, on birth-environment research. It interrogates apparently missing architectural aspects of birth spaces in the literature and examines ways that birth spaces can be researched using women's

experiences through birth stories.

Chapter 4: Methodology and methods builds on this review and explains how the methodology and methods for the study draw out the spatial context of birth from women's experiences of giving birth.

Chapter 5: Policy guidance critique examines the rhetoric of woman-centred care in the current maternity policy document *Better Births* (2016) and the two main design guidance documents for birth spaces: *Health Building Note 09-02* (2013): *Maternity care facilities* and *Creating a better birth environment audit toolkit: contents and guidelines* (2003). It identifies some significant mismatches between the design principles presented and the rhetoric.

The findings of the empirical study are presented in **Chapters 6-10** and organised into chapters of similar themes. These chapters also broadly follow the timeline of a woman's experience: from prior expectations, through labour experience to postnatal themes.

Chapter 6: Introducing the women and the venues presents pen portraits of the twenty-four women and drawings of the ten birth venues to aid understanding of the spatial context of their experiences. The women prefaced their experiences by explaining their prior expectations and experiences of the birth venues.

Chapter 7: Portrayals of space Women communicated a number of different perceptions of rooms. They represented their spatial experience as visual, physical and through people's relationships to objects in the rooms.

Chapter 8: Trajectories through space Further themes arose in relation to moving between spaces and how this mapped-out a woman's perception of labour progress. Women's trajectories through space were controlled by a number of factors, especially in hospital contexts.

Chapter 9: Spatial proximity and social interaction Women's experiences of sharing space with other people were significant to them and some women employed spatial strategies to protect their actual birth space. This chapter also discusses those spaces where women felt protected without applying spatial strategies.

Chapter 10: Building stories around place discusses how women connected their memory of the birth space with constructing their interpretations and their personalised story about meeting their baby.

Chapter 11: Discussion explores the spatial implications of the findings with reference to the design recommendations for maternity facilities (Section 11.3) and three core themes within women-centred care research (Section 11.3) in order to build a new architectural understanding of birth spaces.

Chapter 12: Conclusion summarises the research findings in response to the research aim and objectives, considers possible further research, and presents the thesis outputs as a series of practical recommendations and new spatial theory for birth spaces. Reflective writing takes stock of how the thesis develops architectural practice and research, as well as myself as a researcher. The thesis concludes with a summary of the contribution to knowledge.



CONTEXTUAL CHAPTERS

My life-context for the thesis is depicted here: I am a nomadic researcher and a chronically-interrupted mother, which necessitated: working to self-imposed timetables; working in the early hours of in the morning and through the school holidays; at various desks, on trains and in cafes; and often whilst waiting at swimming pools. My best thinking was often when out enjoying a run.

CHAPTER 2

THE POLICY AND PRACTICE CONTEXT

2.1 CHAPTER OUTLINE

Early maternity policy documents emerged to consolidate and embed a medical approach to childbirth within a newly-developing national health service. Since then, policy writers have repeatedly attempted to facilitate the integration of women's views into maternity policy as a counter to an increasing dominance of medicine over childbirth. This focus on women's experiences of care and childbirth emerged as 'woman-centred' in policy.

Research which examines the physical context for birth (the birth-environment research discussed in Section 3.4) has taken inspiration from an alongside history of maternity homes, isolated GP units and birth centres led to alternative forms of institutional settings. At the time of writing these usually take the form of a midwife-led unit either alongside a hospital or as a standalone building and are associated with improved birth outcomes and satisfaction for women and the type of care philosophy practiced in midwife-led spaces (Sandall et al., 2016).

This chapter discusses a historical account of the maternity policies and practices that brought about a woman-centred rhetoric in contemporary maternity policy. Interspersed with this is a history of the dominance of healthcare architecture over the provision of birth space and its development over the same time period as a techno-rational activity (see Section 2.3) inspired by medical science. This approach to design challenges the aims of woman-centred care and is here examined to elicit the implications of this challenge for birth space design. *Figure 2.1* presents a chronological list of the UK policy and design guidance documents that are discussed.

2.2 EARLY-TWENTIETH CENTURY

Childbirth practices in the UK became subject to rapid and mostly un-scrutinised change in the Twentieth Century (Johanson, Newburn, & Macfarlane, 2002). Before the Twentieth Century, childbirth was considered a private, social event and not subject to social or public policy (Stevens, 2003). A form of midwifery or social support for labouring women existed as a private arrangement or sometimes as part of community (Loudon, 1992) or church practices (Arney, 1982).

Figure 2.1 Chronological list of UK policy and design guidance documents discussed

Date		Maternity	Design
<1948		Maternity care organised without the influence of healthcare policy	Principles of hygienic ward design in Florence Nightingale's book <i>Notes on hospitals</i> (1863)
1948	Changing towards more medical birth	National Health Service created as a significant event in the development of healthcare design and maternity care practices	
1955			Studies in the function and design of hospitals (Nuffield Trust/NHS)
1959		The Cranbrook Report (Ministry of Health). The first published national maternity policy	
1960s			Development of the Department of Health: Health Building Note design guidance first published
1970		The Peel Report (Standing Maternity and Midwifery Committee)	
1980		The Short Report (Social Services Committee)	
1992	Changing towards more personalised care	The Winterton Report (House of Commons)	
1993		Changing Childbirth (Expert Maternity Group) response to Winterton Report	
1998		The New NHS: Modern and Dependable (Government white paper)	
1998		A First Class Service (Department of Health)	
2000		The NHS Plan: A plan for investment, a plan for reform (Department of Health)	
2003			
2004		National Service Framework for Children, Young People and Maternity Services (Department of Health)	
2007		Maternity Matters (Department of Health)	
2008			
2010		Midwifery 2020: Delivering expectations	
2012/13			Department of Health Capital Funding for Improving Birthing Environments
2013			(2) Revised version of Department of Health: Children, young people and maternity services: Health Building Note 09-02: Maternity care facilities
2016		(1) Better Births (National Maternity Review)	

Church practices also led to 'therapeutic communities' (Gesler, Bell, Curtis, Hubbard, & Francis, 2004, p. 120) of patients formed in existing buildings for the treatment of their moral and physical condition, before hospital design developed. Behind the Twentieth Century Modernist focus on medical and centralised care in cities (Berman, 1983), a therapeutic vision of maternity care flourished at a small scale, particularly in more rural parts of the UK (Borsay & Hunter, 2012). There is a history of the existence of this therapeutic vision of healthcare under threat from the dominance of scientific medical practices (Deery et al., 2010).

Architecture and health emerged as a linked design specialism in the late 1800s (Verderber, 2010). Hospital ward layouts were inspired by a number of sources: the philosopher Jeremy Bentham's *Panopticon* (Bentham, 1791, 1842)⁶ and Florence Nightingale's principles of hygienic ward design recorded in *Notes on hospitals* (Nightingale, 1863). Architects adopted Nightingale's standardised dimensions for these spaces and her design principles for bringing fresh air into healthcare buildings. Her principle of function-led interior design is 'modernist in its expression' (Verderber, 2010, p. 21) and set the performance standard for hospital design at least until the start of the Second World War (Ibid.). Early hospital ward layouts maximised observation of patients and the efficient working of staff (Seelye, 1982). Early-Twentieth-Century hospital design also drew inspiration from the mental asylums and spa buildings of the 1800s (Prior, 1988) and the ward layouts of military hospitals of the First and Second World Wars (Ibid.).

In addition, Florence Nightingale's (1871) *Introductory notes on Lying-In Institutions*, advocated a similar concept to that of modern-day alongside midwifery units: small in scale, separated from other hospital wards but in close enough proximity to access medical facilities. The independence of midwifery practice in these maternity homes became limited by the Midwives and Maternity Homes bill amendment to the Midwives Acts, 1902 and 1918 (Hansard, 1926). These incorporated these types of venues into an increasingly centralised model of healthcare leading to the NHS.

By the 1930s, UK hospital design started to adopt the modernist principles of architecture emerging across Europe. Architects developed a new building form of tuberculosis sanatoriums and incorporated design innovations for healing and recuperation through fresh air, sunlight, gentle exercise in natural surroundings and separation of patients to reduce infection spread (Verderber, 2010). Architects have always found interest in the healing properties of the physical surroundings of hospitals (Lawson, 2010). One of the greatest differences between the early-Twentieth-Century understanding of health and the ideas prevalent today, is that the emotional needs of patients and staff are now recognised as important for their overall well-being (Anderson, 2010).

Childbirth became re-defined from a private domestic event into a medical event as part of a developing health service. The Midwives Act of 1936 introduced salaried midwives employed by social services in a community-based service (Benoit et al., 2005). Some women paid for a doctor, viewing medical care for childbirth as progressive and modern, and a reflection of a

⁶ The *Panopticon* is a design strategy for maximising surveillance by one person over the other occupants.

higher status than women using local midwives. The introduction of the NHS in 1948 (NHS Act 1946), entitled all women to free maternity care, and a mix of community and hospital-based care was available (De Vries, Benoit, Van Teijlingen, & Wrede, 2002).

Maternity policy changes in post-war Britain elevated equity of access to health care to a moral right. As hospital birth became normalised over time, this moral right transformed into a form of social moral duty to give birth in an institutional setting (Viisainen 2000). A range of interested parties (women's groups as well as obstetricians and policy-makers) promoted increased institution-based maternity care in maternity homes and hospitals from the First World War onwards. This was a reaction to concerns over women's living conditions and childbirth considered as safer in the hygienic conditions of a hospital building. Women's groups campaigned for a prolonged postnatal stay for women in institutional settings as a means to have rest after a birth compared to resuming domestic responsibilities at home (Borsay & Hunter, 2012).

Emerging obstetric practices changed women's childbirth experiences and the furnishings of hospital birth rooms. Obstetricians⁷ found birth easier to observe with women in lithotomy on a bed designed with stirrups to support a woman's raised legs⁸. Research evidence shows that physiological birth works best when a woman is unobserved (Buckley, 2003) and a supine position is the least effective position for labour to progress (Tew, 2013). Despite this, observation-based practices and the obstetric bed is still a prominent feature of most birth rooms in the UK and globally (Hodnett, Stremler, Weston, & McKeever, 2009).

2.3 THE NATIONAL HEALTH SERVICE AND MID-CENTURY CHANGE

Techno-rational theory was a major force driving the development of childbirth practices and the design of healthcare buildings in the Twentieth Century. A scientific approach to design evolved into an evidence-based form of healthcare architecture (EBD) that still exists. EBD architects favour scientific, technology-based and quantifiable methods in their practice. Current evidence-based medicine (EBM) had a similar evolution through the application of scientific principles, technology and rationality to medicine (Davidoff, Haynes, Sackett, & Smith, 1995). Snodgrass and Coyne explain techno-rationalist theory as tending:

To see the world exclusively in terms of mathematical, which is to say, abstract relations, so that theory becomes the handmaiden of quantification, and aims for the attainment of quantifiable results. Theory subjects all decision-making to the criterion of "efficiency", which is defined exclusively in terms of utilitarian, quantitative and, increasingly, monetary outcomes. (Snodgrass & Coyne, 2013, p. 113)

⁷ The etymology of the term obstetrician is 'one who stands opposite (the woman giving birth)' (Oxford Dictionaries) i.e. the position of an observer.

⁸ This position is colloquially known as the *stranded beetle* position.

An example of the application of this thinking is how Taylor's workplace principles (1911) inspired hospital architects to divide activities into their 'most efficient constituent parts' (Woodham, 1997, p. 12). Architects designed layouts that processed the care of patients similarly to the production lines of Fordism (Mohan, 2002; Woodham, 1997). The management of childbirth in hospitals under the control of medical expertise also favoured a Taylorist and Fordist approach (Walsh, 2006b). For birth to fit into this modernist healing environment, it needed to be re-defined as a potentially pathological event that could be managed in a systematic way (Walsh & Newburn, 2002b; Foureur & Davis-Harte, 2017). McCourt and Stevens note that 'The nature of production – and reproduction – had changed' (2006, p.11).

New hospitals in the 1950s represented modern medicine and health symbolically as 'efficiency, and an optimistic attitude toward technology and progress' (Gesler et al., 2004, p. 121) and resulted from the design philosophy of the NHS as a new prolific and publically-funded architectural client at the time. Hospital design theory developed rapidly: The Nuffield Trust, as a private client, also encouraged architects to innovate with modern building forms with the publication of *Studies in the Function and Design of Hospitals* in 1955. Architects expected research and rational inquiry to progress modern architecture in the same way as it had revolutionised industry, medicine and economics (Gesler et al., 2004). This point of view led to the rejection of some aspects of design as subjective including patient experience (Francis, Glanville, Noble, & Scher, 1999); research focused instead on medical clinical requirements (Mohan, 2002). Many healthcare building typologies arose during this period⁹. One such type, the 'minimalist megahospital' (2000, p.13) was:

... the perfect architectural expression in the age of high-tech medicine. It now was possible to reduce the hospital to its structural essence and allow it to become a sheer container of the volumetric machines for being healed. (Verderber & Fine, 2000, p. 13)

In obstetrics, the plastics revolution of the 1950s and 1960s made drips and epidural anaesthetics possible, and eventually routine in mid-Twentieth-Century birth (Odent, 2011). Birth rooms became increasingly specialised healthcare spaces for a medical concept of childbirth. In the 1960s, a series of *Department of Health: Health Building Notes* standardised design including that of maternity care facilities. Updated versions of these documents are still in use (Phiri, 2014).

⁹ Mainstream Modern – a hospital designed with the principles of Modernism that had become mainstream architectural ideas.

The Tower Hospital – known colloquially as 'matchbox on a muffin' (Gesler et al., 2004, p. 121). Wards were arranged in the tower, with service functions in a separate horizontal block below.

The Nucleus Hospital System – a series of standard departmental plans that were assembled together to produce a hospital layout to suit the particular project (Phiri, 2014).

Early maternity policy documents recommended hospital as the safest venue for childbirth: each one using increasingly stronger terms (*The Cranbrook Report* (Ministry of Health, 1959), *The Peel Report* (Standing Maternity and Midwifery Committee, 1970), *The Short Report* (Social Services Committee, 1980)). Hospital birth became the favoured option for women and professionals alike as a marked shift from the early norm of birth at home. Foureur & Davis Harte describe the policy changes that shifted birth from home to hospital as ‘the largest uncontrolled and unevaluated experiment in the Western World’ (2017, p.110) since there was a limited evidence-base for this change (Ibid.). UK midwives continued as the primary birth attendant at most hospital births but increased medical management of childbirth undermined this role (Benoit et al., 2005). Increased induction and augmentation of labour, epidural analgesia, electronic fetal monitoring and an increased caesarean section rate matched the rising hospital birth rates through the 1960s and 1970s (R.C.M., R.C.O.G., & NCT, 2001). Some contemporary scholars expressed concern over this ‘medicalisation’ of childbirth and the resulting future direction for development of maternity care (Johanson et al., 2002).

Birth in ‘isolated GP units’ developed alongside hospital birth (De Vries et al., 2013). In this model, a woman’s care was shared between her GP and midwives with birth taking place in a building away from a hospital. Mothers reportedly liked the service provided by isolated GP units, but would give birth at home in preference to accessing a distant GP unit (Ibid.). The *Short Report* proposed the phasing out of both GP units and home birth, suggesting that both were risky for babies (Ibid.). The evidence available at the time showed that isolated GP units had the lowest maternal and infant mortality and morbidity rates compared to home and consultant-led hospitals. This was a move about professional boundaries and increasing control of maternity care by obstetricians: most GPs had absorbed the idea that obstetrics was too specialised for their set of skills (Ibid.).

2.4 POLICY SHIFTS AND THE ARRIVAL OF WOMAN-CENTRED CARE

Later Twentieth-Century maternity policy re-interpreted the meaning of safe birth and the role of women in their own care. In 1980 *The Short Report* (Social Services Committee) shifted earlier emphasis on mortality and morbidity rates to define safe birth onto the quality of the maternity service provided: applying the techno-rational principles of efficiency, nationwide quality control and increased consumerism to maternity care (Sandall, 1995). The report authors also encouraged national, reliable record-keeping, and the sharing of good practice for antenatal care and education. Policy encouraged the achievement of quality through standardisation of practice. Hospital designers did likewise, seeking to devise easily-replicated standard models for birth rooms and wards (Lepori, 2008).

Women's views (through representative organisations) entered maternity policy for the first time in the *Winterton Report* (House of Commons, 1992). It reflected the growing dissatisfaction voiced by midwives and women 'that all is not well with the maternity services and that women have needs which are not being met' (House of Commons, 1992). The report coined the term *woman-centred care* (House of Commons, 1992, p. xivi). Some propose this was a minor step-change since the report's prime motives matched those in the 1980 *Short Report* of creating an economic service providing adequate resources 'cost-effectively used' (House of Commons, 1992, p. v).

Ongoing lay input into running the service did not appear welcome (Phillips, 2009) and optimising women's experiences of childbirth was not a prime policy goal (Rothwell, 1996). The needs of the organisation, the day-to-day running of the service and the practices of health professionals were all prioritised over women's needs. Recognition of women's experiences came later with an agenda of choice (*Changing Childbirth* (Expert Maternity Group, 1993)) and women as consumers of maternity services in the 1990s (for example, *The New NHS* (NHS Executive, 1998b) and *A First Class Service* (NHS Executive, 1998a)).

The *Winterton Report* defined woman-centred care as measurable targets: to increase normal birth rates for women who were likely to have straightforward births (House of Commons, 1992, p. v). Midwifery researchers still debate the extent to which key concepts from the *Winterton Report* such as woman-centred care, choice, continuity of care and control (House of Commons, 1992, p. xiii) have been realised in practice (Cheyne, McCourt, & Semple, 2013; Freeman, 2006; Green, Renfrew, & Curtis, 2000; Kirkham & Stapleton, 2001; Leap, 2009). The *Winterton Report* defined a woman-centred birth room as 'non medical' in contrast to a 'medical' room (House of Commons, 1992). Thus a medical reference point was understood as the norm for birth spaces.

The *Changing Childbirth* report (Expert Maternity Group) followed in 1993 and was adopted as policy for England. Many regarded this as the maternity establishment's response to the *Winterton Report* (Phillips, 2009). *Changing Childbirth* stated that 'a "medical model of care" should no longer drive the service' (Expert Maternity Group, 1993, p. 8) and identified three new guiding principles: a focus on women, in control of their care and decision-making; services should be accessible to all; and involving women in monitoring and planning services (Expert Maternity Group, 1993).

Techno-rational principles still governed the implementation of policy. Woman-centred care was to be measured through performance indicators and assessment criteria. Women's views informed service reforms but change implementation was ultimately controlled by those running the service. The later midwifery-adopted concept of a birth environment was not well

known in the early 1990s and *Changing Childbirth* did not explain a role for birth spaces in achieving its aims. The policy's approach to language and maternity practice remained influential and continued 'to resonate in the maternity service' (McIntosh, 2013, p. 415) until the publication of *Better Births* in 2016.

Ever since the *Winterton Report* introduced woman-centred care into policy, the meaning and implications of this care on midwifery practice has been explored (for example, team midwifery and case-loading midwifery (Page, 1995)). Much less attention has been paid to understanding women's perceptions or experiences of such changes (Sandall, 1995). Some researchers criticised *Changing Childbirth* for not acknowledging the role of organisational culture in creating changes to practice (Newburn, 2006); merely publishing this policy document would not change a culture (Kirkham, 1999) and interventions into day-to-day maternity practices were needed. Midwives collectively welcomed both the *Winterton Report* and *Changing Childbirth*, anticipating that women would receive more personal treatment and midwife-led care. Little sustained investment by the government meant that the reality did not match the ideal. Some senior managers saw the report as unachievable and idealistic within existing available resources (Bradshaw & Bradshaw, 1997).

Woman-centred care as a core goal for maternity practice remained contentious because it critiqued the more dominant medical model of childbirth. A polarised debate developed initiated 'by women, feminists, academics, midwives and even the occasional obstetrician' (Brooks, 2000, p. 27) who questioned the medical model. Provision of antenatal education increased in the 1990s as a means to disseminate alternative ideas to women. After a number of generations of women who only knew about hospital birth, women lacked confidence in their own ability to give birth (NCT, 2017). Antenatal education aimed to empower women, and to create an alternative that paralleled 'the technical, medical takeover of birth by doctors and the demise of midwives and home birth' (Robertson, 1994, p. 5).

Childbirth activists encouraged women to choose 'their way' of giving birth and some identified a woman's choice of birth venue as important in achieving this aim (Kitzinger, 1991). Organisations such as the National Childbirth Trust (NCT)¹⁰ sought to address the lack of an authoritative lay voice within the policy-making bodies by publishing its own commissioned research. The two NCT surveys of women's experiences of birth environments (Newburn & Singh, 2003b, 2005) are part of this legacy. This lack of voice probably drove the development of lay organisations and antenatal education to empower women against the dominant system of care (Robertson, 1994).

¹⁰ The NCT rebranded in 2008 so that it is now known only by the initials 'NCT'.

Some accounts of maternity care at the time (Davis-Floyd, 1993) assumed solely medically-based motives for increasing rates of institutional birth. An account of maternity home use in York (Webb, 2002) notes that in the 1960s, women were admitted for both medical and social care reasons for around 10 days (in the model of Florence Nightingale's 'Lying-in hospital'). Women expecting a straightforward birth did so at home. This differs to the present-day role of birth centres/midwifery units (into which many UK maternity homes evolved) as a place for women expecting a straightforward birth but prefer an institutional setting to their own home.

Significant changes to the management and financial structure of the NHS in later modernising UK government documents lacked direct reference to maternity services. The government White Paper *The New NHS: Modern and Dependable* (NHS Executive, 1998b) introduced integrated care and national standards, clinical governance, NHS organisational changes and new primary care groups, which took over the commissioning of maternity services. This new, more commercial approach gave primary care groups control over service budgets with no ring-fenced funding for the buildings where women gave birth.

This 1990s rebranding of health as a 'health culture' (Verderber & Fine, 2000, p. 10) influenced architectural design. Hotel and spa buildings inspired architects as an expression of a client-focused culture and competition between venues that needed to attract clients for treatment (Gesler et al., 2004). This newly-restructured NHS was a controlling architectural client that thwarted innovation in architectural design and encouraged cautious development of existing and new buildings (Francis et al., 1999). Further modernisation of the NHS followed with *A First Class Service* (NHS Executive, 1998a). This reflected the continuing trend for tighter national regulation by creating National Service Frameworks (NSF) and the National Institute for Clinical Excellence (NICE), and in the implementation of Clinical Governance, lifelong learning for NHS staff, new self-regulation systems and a new healthcare regulator.

The modernising programme for the NHS was viewed as a set-back for modernising maternity care. The new clinical governance in the 1990s implicitly assumed that medical professionals would lead maternity services. This concerned midwives and those seeking to implement the women-centred care of *Changing Childbirth* (Fyle, 1998). Winterton, who chaired the committee for the 1992 report, concluded maternity services had moved even further from the ideal hoped for (Hansard 19.04.2000 column 209 WH). Lay organisations¹¹ voiced concern that although policy rhetoric identified a woman-centred approach; women's experiences remained unchanged from before the publication of *Changing Childbirth*.

¹¹ For example: the NCT and the Association for Improvements in Maternity Services (AIMS).

Another policy response to this modernising programme came in *Maternity Matters* (Department of Health, 2007). This developed further principles for woman-focused and family-centred services giving women options for accessing maternity care: a choice of type of antenatal care, place of birth and place of postnatal care. Every woman would be supported by a midwife she would know, in pregnancy and after the birth. The need for policy makers to reiterate woman-centred care and choice, demonstrates that earlier policy documents achieved limited success in implementation.

The litany of choice, repeated from *Changing Childbirth*, had qualifying clauses especially regarding the place of birth. Women were encouraged to give birth in the place they considered the safest option. For women who wanted to access maternity services outside their local area, the policy allowed care providers to use service capacity concerns to determine these women's final selection. Competition between birth venues and NHS Trusts was assumed to be geographical across a particular city or region, rather than encouraging women to choose between building types (home, hospital, alongside-midwifery unit and freestanding-midwifery unit).

The language of policy documents changed over time and reflected how health professionals changed their perception of childbearing women. Early maternity policy documents called women 'patients' (Ministry of Health, 1959) or 'mothers' (Standing Maternity and Midwifery Committee, 1970). The *Winterton Report* signalled a key shift by using 'women' (House of Commons, 1992). A rhetoric of increasing consumerism appeared in later policy documents (Oakley, 1980) with women referred to as 'clients' and 'consumers' (Expert Maternity Group, 1993). Midwives viewed themselves as "the lead professional" not as "women" within the philosophy of woman-centred maternity care, thereby maintaining a professional distance between themselves and women's experiences (Kirkham, 1999).

Evidence-based design (EBD) developed in the 1990s. It remains the universally-adopted healthcare architecture approach as a 'rapidly evolving and increasingly rigorous field' (Ulrich et al., 2008, p. 73). Hamilton (2003) set out the principles of evidence-based healthcare architecture to mirror healthcare practices. Design is interpreted as a technical and decision-making process 'a natural analogue to the evidence-based decision making of our clients' (Hamilton, 2003, p. 1) based on 'credible research to achieve the best possible outcomes' (Salonen et al., 2013, p. 4). The use of 'clients' here refers to clinicians and not patients or childbearing women. EBD's techno-rational approach has increased the importance of understanding healthcare rooms through environmental factors (lighting, aesthetics for example) (Hamilton, 2003) over architectural theory and alternative ways of designing.

EBD has a practice of “borrowing” evidence from environmental science and multiple disciplines¹² (Gesler et al., 2004). A research basis for hospital design developed in the 1950s-70s through the patronage of the NHS without a coherent agenda or programme. This approach remains contentious since it only prioritises ‘compelling scientifically credible evidence’ (Zimring, Joseph, & Choudhary, 2004, p. 2), and leads to architects’ designs reflecting only quantifiable outcomes. Two evidence-based design priorities dominate architects’ work: first assessing the impact on staff and clinical outcomes; then separately, making hospitals less stressful and risky¹³ for patients, family and staff (Zimring et al., 2004).

An understanding of the social value of architecture was not a priority in the development of healthcare EBD (Hamilton, 2003). Its creator, Hamilton criticised healthcare architects who he viewed as not ‘serious’ enough to design through robust and scientifically-tested concepts. Foucault (1995) critiqued this science-based approach for creating the hospital context as resulting in a laboratory setting to isolate symptoms of disease and monitor treatment without the extraneous trappings of the patients’ usual life activities and isolated from friends and families.

A call for humanising healthcare and healthcare buildings started in the 1950s and has continued ever since (Verderber & Fine, 2000). Howard’s (1975; Howard, Davis, Pope, & Ruzek, 1977) definition for a humanised system of healthcare developed from applying the ‘higher level’ concept of self-actualisation in Maslow’s *Hierarchy of Needs* (Maslow, 1943) to health care. The work of Finnish architect Alvar Aalto paralleled Howard’s humanising work (Verderber & Fine, 2000). Aalto critiqued the techno-rational approach of contemporary architects in *The Humanizing of Architecture* (Aalto, 1940) and in the Paimio Sanatorium (1927). Aalto’s humanising architecture anticipated the haptic architects of the 1970s onwards, interested less in the function of spaces and more in design created from how people experience buildings (Bloomer & Moore, 1977; Franck & Lepori, 2000; Robinson & Pallasmaa, 2015; Rasmussen, 1964; Jencks, 2015).

Bowker later developed Howard’s definition of a humanised system of healthcare with his work on the aged and nursing homes (Bowker, 1982). The design impact of Howard and Bowker’s texts on continued healthcare practice has been minimal, and Verderber & Fine suggest mainstream healthcare architecture has not engaged in this humanising debate because ‘architecture cannot aspire to anything more than our collective human aspirations will allow’ (2000, p. 6).

¹² For example: natural science, environmental psychology, landscaping etc.

¹³ This risk referred to infections acquired in hospital and medical errors.

In a similar fashion to maternity homes, architecture for a humanised system of healthcare has developed “behind the scenes” of, and as a reaction to, design for a dominant medical model. Bates argues that the ‘human’ in humanising operates as an ‘umbrella term’ (2018, p.3) for regaining agency, individualism and holism for patients within a healthcare system and an expression of individualism within an institutional scale of building (Bates, 2018). This premise is demonstrated in the design brief for Maggie’s Cancer Centres (established in 1996) which use design to help cancer sufferers to ‘help themselves’ and ‘inspire carers to care more’ (Jencks, 2015, p. 5). The Maggie’s Centres design brief ‘emphasises the empowering potential of the designed environment for its users’ (Butterfield & Martin, 2016, p.695). Both the building and surrounding landscape are viewed as ‘therapeutic landscapes’ (Ibid.).

There are parallels in how the Maggie Centre design brief developed and the later actions of consumer groups campaigning for users’ experience to inform birth environment design (in the NCT national surveys of the birth environment, 2003, 2005). Maggie Keswick - the inspiration for Maggie’s Centres – published reflections on the support she received during cancer treatment and noted that hospital environments induce a sense of worthlessness: ‘most hospital environments say to the patient, in effect: “how you feel is unimportant. You are not of value. Fit in with us. Not us with you”’ (Keswick, 1995, p.209).

2.5 EARLY-TWENTY FIRST CENTURY

The historical context presented so far highlights the factors that led to healthcare architecture developing into a technical practice influenced by a medical and evidence-based model for design. Policy reform in the early-Twenty First Century reinforced this concept. Architecture is described as integral to clinical practice and a tool for improving health outcomes in *The NHS Plan: A plan for investment, a plan for reform* (2000). This is architecture based on ‘empirical studies’ and ‘the interior of healthcare buildings ... as part of the overall health service and not something separate from it’ (Department of Health, 2000, p. 3).

Maternity policy repeated the message that maternity care should be woman-centred with birth as a ‘normal life event’ (Department of Health, 2004, p. 6), but identified the welfare of the baby as the priority for care. The *National Service Framework for Children, Young People and Maternity Services* (Department of Health, 2004) placed maternity care within children’s services and had the overall strategy of improving children’s health and resilience in later life through a safe birth (Ibid.).

A few years later *Midwifery 2020: delivering expectations* (Chief nursing officers, 2010)¹⁴

¹⁴ The commissioning of the report was unusual in that the four Chief Nursing officers (for England, Wales, Northern

aimed to integrate woman-centred policy goals into the everyday practice of midwives; reiterating women's continued dissatisfaction with maternity care provision (Redshaw & Heikkilä, 2010). The core message of the report was a challenge to change midwifery practice (ibid.). The lack of success in implementing goals is thought to stem from woman-centred care being a 'complex issue' (Raynor, Mander, & Marshall, 2014, p. 13) with women's diverse social and medical needs not accommodated within conventional UK healthcare settings (Phillips, 2009). The Royal College of Midwives (RCM) assessed that *Midwifery 2020* contained 'few new messages' (Griffiths, 2010) but that its publication confirmed that promoting midwifery-led care (over obstetric care) is the right strategy to improve maternity services. The RCM took publication as a call to embed this care in the delivery of services (ibid.).

Safety was the responsibility of medical experts within a hospital context in past reports: for example, *The Cranbrook Report* (Ministry of Health, 1959), *The Peel Report* (Standing Maternity and Midwifery Committee, 1970). The Protocol for *The Birthplace Study* (Brocklehurst et al. 2011) identified that there are 'major gaps in the evidence' (NPEU, 2008, p.2) used to support the development of past maternity policy. *The Birthplace Study* (2011) compares birth outcomes for planned birth in venues where midwifery-led care is offered (home, freestanding- and alongside-midwifery units) and planned birth in obstetric maternity units. Comparison of 'clinical outcomes evidence' led to findings that challenge the perception that planned birth in midwifery-led units or at home is consistently less safe than planned birth in an obstetric unit (Brocklehurst et al. 2011).

There is now reliable evidence for the view that early-Twentieth-Century assumption that hospitals are always the safest venues for birth was incorrect; this marks a significant shift in the understanding of safety and risk in relation to birth venues. The Birthplace Study is a key piece of evidence that informed new NICE guidelines (2014), as part of a review of relevant research. EBD healthcare architecture continues to approach safety with the same understanding of safety that emerged with the 1959 *Cranbrook Report* and measures a safe birth environment in terms of cleanliness, infection control, medical lighting etc. Recent evidence on clinically safe birth outcomes in relation to birth venues shows significant contradiction with women's perceptions of where they feel safe to give birth (McCourt et al., 2016). This has implications for practice: for example, making women aware of evidence that birth outside of a consultant-led hospital venue can be a safe option for them to choose (ibid.).

At the time of writing, the current policy document *Better Births* (2016) has introduced *personalised care*¹⁵ as a further development of woman-centred care. *Better Births* also proposes safe birth as the joint responsibility of a woman and her carers¹⁶. The decentralised funding model provides individual budgets that follow women through their care, implying increased emphasis on social responsiveness to a labouring woman's needs. For the first time, maternity policy aims for clinical practice to be protective of women's mental health; previous policy did not explicitly consider perinatal mental health. Thus, this increases the significance of how women experience childbirth and birth venues as part of their long term mental health.

Currently, most births in the UK are in an institutional setting: hospital or an alongside- or freestanding- midwifery-led unit. Around 2% of births are at home (Dodwell & Gibson, 2012)¹⁷. A positive association between home birth in the UK and positive birth outcomes is now noted (Brocklehurst et al., 2011; Campbell & Macfarlane, 1994; Chamberlain & Wraight, 1997). Some midwifery scholars identify increasing the home birth rate in the UK as part of a strategy to promote women-centred care (Walsh, Common, & Noble, 2014). Planned and actual place of birth can differ and also impact on birth outcomes and women's satisfaction (Brocklehurst et al., 2011). Emergency transfer between venues is a significant part of a woman's birth experience (Rowe, Kurinczuk, Locock, & Fitzpatrick, 2012).

The *NICE Intrapartum guidelines* and *Better Births* identify three types of birth venue in the UK: hospital-based consultant-led units, midwife-led units (birth centres is another description) and home. The *Birthplace in England Study* draws a clear distinction between two types of midwife-led unit: alongside and freestanding, to describe their physical relationship with any associated hospital-based consultant-led unit. *Appendix A [A.1]* contains a summary description of these as birth venues. Hospital settings continue to be large, complex, technical buildings. Walsh describes these 'large, busy labour wards' overseen by doctors, as 'archetypal modernist organisations' (Walsh, 2007a, p. 111) requiring an 'industrial model of childbirth' (Ibid.) to work effectively. Birth centres are seen as representing a distinct alternative (Kirkham, 2003; Walsh & Newburn, 2002a) with ample resources to respond to women's individual needs (Walsh, 2007a). The flat organisational structure characterises a more social and postmodern approach to childbirth than the medical approach within hospitals (Ibid.). In reality, birth centres operate within the medically-led health service, so a clear distinction between a social care model in birth centres and a medical care model in hospitals does not

¹⁵ The UK Government National Maternity Review, *Better births* defines personalised care as:
"centred on the woman, her baby and her family, based around their needs and their decisions, where they have genuine choice, informed by unbiased information" (National Maternity Review, 2016, p. 9)

¹⁶ Arguably women have always been responsible for their own care.

¹⁷ In some rural parts of Wales the home birth rate is around 9% (Dodwell & Gibson, 2012).

always happen in practice (care models are further critiqued in section 2.7.2).

2.6 BIRTH-ENVIRONMENT DESIGN TOOLS AND INITIATIVES

2.6.1 Birth-environment design tools

The design tools discussed here resulted primarily from birth-environment studies as an emerging research area in the early-Twenty First Century. They illustrate a core theme of this chapter that EBD is not responsive to the distinct needs of childbirth. Instead architects apply design principles to birth spaces that respond to more generic medical-clinical design brief.

The NCT developed *The Better Birth Environment Audit Toolkit (NCT Tool)* from a survey of women's views on the birth environment (Newburn & Singh, 2003a) to assess existing and planned maternity birth spaces. This remains the primary resource for birth space design in the UK. The *NCT Tool* relies on quantitative data to provide a ten-point score for rooms assessed individually. *Appendix A [A.3]* shows a sample audit checklist sheet. The findings of the NCT survey of women's views inform the checklist criteria (Newburn & Singh, 2003a). The focus is on low-cost improvements to existing venues and therefore operational aspects such as cleanliness are more important than spatial layouts (which are created in the design stage).

The *AEDET (and AEDET Evolution) Design Quality Evaluation Tools* (2008) (*AEDET Tool*) was commissioned by the Department of Health as a benchmarking tool to select between competing architectural schemes for new healthcare facilities.¹⁸ It too demonstrates a technological philosophy behind the design of healthcare buildings designed to EBD standards. The *AEDET Tool* scoring system is more complex than the *NCT Tool* and uses criteria on a Microsoft Excel spreadsheet (sample pages are in *Appendix A [A.2]*). The *NCT Tool* creates an overall room score and the *AEDET Tool* identifies strengths and weaknesses in the overall design quality of a scheme (NHS, CABE, CIC, & University of Sheffield, 2008). Researchers created a second tool *ASPECT* that gave three-dimensional visualisations of spaces to aid designers.

Australian midwifery researchers created the *Birth Unit Design Spatial Evaluation Tool (BUDSET Tool)* as a 'means of measuring the qualities of the birth space or environment' to 'assess the optimality of birth unit design' (Sheehy, Foureur, Catling-Paull, & Homer, 2010, p. 43). Similarly to the *NCT Tool*, it evaluates birth spaces in terms of how helpful they are for facilitating physiological birth. In addition to the focus on the "optimal" characteristics of a birth room, public spaces within a hospital are assessed for their contribution to a woman's

¹⁸ The Department of Health funded the research and development of this tool at a time when Private Finance Initiative (PFI) schemes were common in the UK. These tools are no longer in use in the UK due to NHS funding and implementation difficulties.

sense of fear during childbirth¹⁹. The comfort of companions is explicitly included in the evaluation of a birth room.

NCT Tool, *AEDET* and *BUDSET Tool* are all text-based documents with numerical tools for assessing spaces. The *NCT Tool* results in an overall rating for a room, something the *AEDET Tool* authors reject as contestable (NHS et al., 2008). The *BUDSET Tool* results in an overall venue score based on the “optimal” characteristics of a birth space which is weighted for comparison between ‘the ideal and between facilities’ (Foureur, Epi, et al., 2010, p. 48).

Despite their quantitative outputs, all the design tools are ‘socially produced’ (Oakley, 1984, p. 335) since each tool addresses particular aspects of design perceived to be both important and missing from existing buildings. The *NCT Tool* seeks to bring women’s voices into the discussion of birth spaces, and into implementing change through women auditing their local maternity unit²⁰. The *AEDET Tool* aims to bring consideration of design quality into the rapid development of NHS Estates through PFI projects and the *BUDSET Tool* seeks to identify the optimum birth environment. These evaluation tools show that the physical surroundings for birth are conceptualised as a “clinical tool” because the effectiveness of the furniture and the aesthetics of a room are assessed for how they increase rates of physiological birth. The *NCT Tool* and the *BUDSET Tool* also idealise a domestic aesthetic for birth rooms (discussed further in Chapter 3).

2.6.2 Birth-environment design initiatives

Funding from the NHS specifically ring-fenced for birth environment is uncommon. Only one national initiative for birth spaces has been launched with the *Capital Funding for Improving Birthing Environments* in 2012-13 (Department of Health, 2012). This encouraged NHS maternity units to refurbish their hospital midwife-led rooms in order to increase normal birth rates and make ‘maternity care feel more personalised and less “institutional”’ (Department of Health, 2013b). Money had to be spent well: maternity units were encouraged to make simple physical changes through refurbishment rather than fund new-build schemes. To qualify for funding, an NHS Trust had to provide evidence that they had consulted local women and families. Dr Daniel Poulter (the then Health Secretary) rationalised the Government’s approach as women-centred by gathering ‘the views and experiences of women and their families locally [to] inform the development and design of birthing environments ... to identify what is important to women and where these improvements can have the biggest impact’ (Department of Health, 2012, p. 5).

¹⁹ The relationship between the birth environment and fear is conceptualised by Foureur as the Fear Cascade (Stenglin & Foureur, 2013b).

²⁰ In the past, only clinical staff would make this kind of room assessment.

A year later, the Department of Health released a further *Capital Fund for Improving Maternity Facilities* (Department of Health, 2013b) and targeted locations with a recent and rapid increase in birth rate or particular demographic needs. It proposed that design should consider the social requirements of women with mental health and substance misuse problems, and the need to provide facilities for supporting families after the loss of a baby.

Desired outcomes from the capital fund initiatives included improving women's experiences, improving privacy and dignity, and creating an environment supportive of cultural diversity (Department of Health, 2012). Birth rooms should be homely, feel more personal and be less institutional (2012). Refurbishment schemes should 'represent good value for money, be well-conceived and aspire to the highest design standard' (2012, p. 6).

These two initiatives recognised maternity facilities as the 'most intimate and personal contact a mother and a family has with the NHS' (Department of Health, 2012, p. 5) but did not provide a design brief for many of the aspects of a space that required change. Healthcare professionals, mainly midwives, made decisions on what physical aspects of a space should be prioritised. The initiatives also perpetuated the idea that physical space can be 'optimised' for birth (Sheehy et al., 2010) and provide the 'very best start in life' (2012, p. 6) for a baby.

2.7 CHALLENGING A MEDICAL MODEL FOR CHILDBIRTH

2.7.1 Critiques of a medical model and alternative models

Medics developed a self-given scientific universal position outside of social sciences in the Twentieth-Century development of a biomedical model; more recently the social sciences have critiqued biomedicine as culturally- and socially-situated (Downe and McCourt, 2008). Clinically-focused research informs childbirth practices within medicine and midwifery (McCourt, 2009). Woman-centred care practices are influenced by a broader range of evidence across disciplines working together globally (for example, anthropology, social sciences, economics, design and midwifery). Jordon's *Birth in four cultures* (1992) for example, legitimised the use of empirically-based anthropological methods to challenge a mainstream medical version of childbirth (Sargent and Gulbas, 2015).

The discussion here recognises that many philosophies of care (Berg, Ólafsdóttir, & Lundgren, 2012) exist for childbirth and examines the notion of a social model of childbirth as potentially informative for design guidance applied to institutional birth settings. Anthropologists, feminist writers, midwives and some obstetricians made significant contributions in identifying and challenging the dominance of medical culture as the context for women giving birth in the Western World (Davis-Floyd ; Kitzinger ; Rapp, 2001; Sargent and Gulbas, 2015; Unnithan-Kumar, 2004).

Various writers have evaluated a medical model of maternity care as one ‘that doesn’t work’ (Davis-Floyd et al., 2009, p.1) as a system that often leaves women feeling disempowered (Ibid.) The medical model, as a ‘culture of control’ (Sterk et al., 2002, p.137), focuses on technology and power issues (Davis-Floyd, 1993, 2001). Davis-Floyd’s influential argument is that medical management of childbirth represents a patriarchal and technocratic society that conceptualises women’s bodies as ‘inherently faulty’ (Cheyney, 2011, p.520). Medical anthropologists who combine feminist approaches interrogate the ‘non-normative and stigmatized’ (Rapp, 2001, p.466) childbearing experiences that do not conform to the medical model and apply social theory to reproduction (Ibid.). Thus, these anthropologists expose the pluralism evident in women’s experiences in contrast to the assumed consensus of experience that is found in biomedicine.

Hausman noted that feminist critiques of obstetric practice place emphasis on the active management of birth, while at the same time acknowledging that childbearing women mostly complied with these practices as they developed (Hausman, 2005). Oakley, for example, explicitly critiqued the medical nature of most women’s experience of birth (Oakley, 1984) whilst other anthropologists accepted birth as inevitably medical with the shift from home-based to hospital-based childbirth (Leavitt, 1986).

Maternity care remains primarily provided from within a techno-rationally and medically dominated national health service. Thus, the small-scale refurbishment of birth environments advocated in Department of Health capital funding initiatives remain insignificant when situated within a larger national health service, and larger hospital building, providing *medical* healthcare. Midwife-led units tend to have a more therapeutic philosophy of care (McCourt et al. 2016) and have a physical independence as purpose-built institutions or evolutions of historic maternity homes. However, the architecture of the physical birth space remains within the remit of the design guidance offered by the NHS for architects as part of the NHS Estate. Thus, the spatial design guidance is fundamentally driven by a techno-rational and medical ethos even if more “woman-centred” design is then added to support women’s occupation the spaces.

A consensus definition of a social model is difficult to achieve (Walsh & Newburn, 2002a, 2002b). A social model of childbirth is often described with reference to a medical model; thus, still giving dominance to the medical model. The obstetrician, Wagner (1994) proposes that a more social alternative is needed to resolve the perceived failings of the existing medical model. Walsh and Newburn give cautious suggestions for a ‘social model of childbirth’ (Walsh & Newburn, 2002a, 2002b) developed from Bradshaw’s (1994) work on healthcare models

(Walsh & Newburn's models are in *Appendix A* [A.4]).

Ideological models impact on women's experiences when they are applied to maternity practice. Van Teijlingen (2005) notes a difficulty with informing working practice through the use of singular medical and social models, without critically-appraising the practical, the ideological and the analytical levels on which a model works. They are philosophical stances in research literature and operate at the same time at the practical level of 'real people organising their work, pregnant women attending antenatal clinics, and so on' (Van Teijlingen, 2005, p. 3). The social model is a theoretical formulation, an 'explicit philosophy' (Kirkham, 2003, p. xv), driving the construction of a more ideal midwifery practice with midwives imagining a social maternity service and then creating this where they can (Walsh, 2007b). For woman-centred care to be a reality as part of this process requires 'differing knowledges, which arise out of multiple belief systems [to work] within one health culture' (Mander & Murphy-Lawless, 2013, p. 17).

Ideological claims are by definition absolute with distinct conceptual boundaries to maintain exclusivity of ideas (Shaw, 2002). Annandale and Clark wrote in the 1990s (immediately after the publication of the *Winterton Report*) that women's health is one of the last areas of feminist anthropology and feminist science to hold on to 'very modernist (i.e. binary) thinking' (1996, p. 24). Researchers seek to assign specific practices to one model or another without challenging that opposing models exist (*Ibid.*). Medical birth becomes perpetuated as the 'mainstream' (Annandale & Clark, 1996, p. 24) version of birth and causing all other philosophical approaches to be labelled as a homogenous alternative model.

2.7.2 Binary thinking

The use of models is a simplifying tool for understanding difference within maternity care, but not necessarily a helpful one for woman-centred or personalised design (Walsh, 2007b). Binary schemas are present in the organisation of maternity care and in the design principles for maternity unit layouts (Walsh, 2007b). Space in hospitals is organised around professional boundaries and places the expertise of the obstetrician at the centre of this structure (*Ibid.*). Over the Twentieth Century, midwifery adopted medicine's principles for best practice (standards, guidelines, protocol and policy) in order to maintain its professional status (Feely, 2017). Therefore the distinction between practices can be blurred (Hyde & Roche-Reid, 2004) but designers do not recognise this ambiguity and complexity in the organisation of hospital wards.

Models of care are subject to an imbalance of scale. Deery et al.'s account of the experience of setting up a birth centre in Scotland is prefaced as 'the politics of a birth centre trapped in a medicalised system' (Deery et al., 2010, p. viii). The therapeutic possibilities and

opportunities for innovative practice within the birth centre/ midwifery unit model both exist because they are small scale and yet are engulfed by the larger scale of a medicalised national health service. Birth centres instil loyalty and satisfaction in users and midwives and have demonstrated clinical effectiveness in recent years (Deery et al., 2010). Their existence remains challenged as a significant ‘deviation’ from mainstream UK obstetrics (Ibid.). At the core of birth centres is an explicit ‘set of values and beliefs about birth, without which [birth] has little meaning’ (Shallow, 2003, p.12). This is distinct from a consultant-led hospital context where values and beliefs are more implicit within care practices and the environment of the building (Foureur et al., 2010).

Binary schemas make it possible to understand models as ‘abstracted, specific and universal’ (Luhmann, 2018, p.152) and to generalise ideas. Luhmann argues that seeking to understand the connectedness of ideas needs more concrete regulation ‘in terms much more specific to each situation, because neither exclusion nor interconnection can be asserted as being of general validity’ (2018, p.152). A binary schema over-simplifies the social world of childbearing women and, in taking an exclusionary stance, narrows the possibilities for understanding birth.

Pregnancy and birth viewed as normal life events for a woman often appear as a core part of “alternative” care models (Bryar, 2011). Some anthropologists represent a social form of birth as a historical ideal to be rediscovered (Kitzinger, 2012). Advocates for an emerging social model make claims that this is a more humanising experience of birth for women (Davis-Floyd, 2001; Wagner, 2001; Walsh & Newburn, 2002a). Design literature increasingly identifies a need to ‘humanise’ hospital environments, but does not offer clarity on the nature of a humanised space (Bates, 2018). Often the use of the phrase ‘to humanise’ serves to symbolise concern over techno-rational and institutional medical practices.

“Humanising” is not ‘value free’ (Bates, 2018, p. 1). The term implies a binary schema that separates what it is to be human from what is technology, suggesting that the modern technology-focused hospital is ‘dehumanising’. The concept of ‘therapeutic landscapes’ (Gesler, 1992) has been adopted (particularly within midwifery units) as a criticism of the positivist philosophies that influences health care and the biomedical model itself (Ibid.). A model of childbirth as a state of ‘well-being’ is often a design brief for midwifery units (McCourt et al., 2016). The meaning of well-being in relation to childbirth is not clear and this meaning needs to be explored if used for design.

The spatial division into midwifery and obstetric care has been present in some form since the early-Twentieth Century. Previously, women under the care of midwives gave birth at home and those paying for the care of a doctor gave birth in hospital. Obstetric hospitals of

this time assigned single-occupancy rooms to women who could pay and ward rooms to women who could not (Smith Williams, 1914). In present-day practice, women are assigned rooms according to whether they are at high or low-risk of complications in childbirth (Department of Health, 2013a).

In some ways the current conception of alongside- and freestanding-midwifery-led units attempts to sit in the middle ground between opposing views, as a form of ‘hybrid space’ (Gilmour, 2006). There are ‘challenges for health service providers attempting to provide a “social model of care” within an institutional context’ (McCourt et al., 2016, p.2). This is particularly true of ‘alongside’ midwifery units co-located with a consultant-led unit in a hospital setting. Positioning this type of institutional building in this way is a physical reflection that society views childbirth as both a normal life event (Foureur et al. 2010) and inherently risky and in need of medical assistance (McCourt et al., 2016). The existence of birth centres is a difficult fit with existing principles of evidence-based healthcare design and perhaps an opportunity for architecture to offer an alternative approach to the production of birth space.

2.8 CHAPTER SUMMARY

There is a tension between the reform goals of midwifery care, which have implications for the buildings where women give birth, and the structures within which healthcare architecture is commissioned and procured. Over the last two centuries techno-rational approaches to care and design have dominated. Healthcare architects embraced scientific thinking and developed a specialised form of practice closely tied to medical ideologies. There has not been an equivalent architectural ‘turn’ towards the kind of midwifery philosophies that woman-centred care represents. Early maternity policy brought childbirth in line with a new medical way of seeing childbirth. Then, woman-centred care developed in later policy as a critique and challenge of this “medicalisation”.

This chapter is implicitly a gendered historical account of Twentieth-Century practices: a “his-story” of architectural development (Rendell, 2012) and a “his- versus her-story” of obstetrics, midwifery and user involvement played out through maternity policy (Tew, 2013). There is a theoretical “status quo” in the field of healthcare which privileges ‘Western man’ as the ‘subject of a teleological history’ (Cairns, Crysler, Heynen & Wright, 2012, p.46). Architectural research and practice in the area of healthcare is primarily a discourse between men. The creation of toolkits in order to improve the birth environment, for example, may be a gendered and technical solution for birth space design. This contrasts with the primarily female-orientated discourse of midwifery and birth environment research and practice reviewed in Chapter 3.

This gendered and technical design approach is a historical reflection of practitioners work 'conditioned by their time and circumstances' (Cairns et al., 2012, p.46). By placing the work of this thesis within the existing context, I aim to identify the gaps in what is so far represented. Rose (1993, p.155) describes this as 'a sense that there are other possibilities beyond the discursive *status quo*. There is a notion of things that are not representable in masculinist discourse, but which women themselves may sense if not articulate ... a desire for something else'. Other forms of architectural practice challenge the male nature of what has constituted architecture in the past and seek to combine theory as practice within an interdisciplinary engagement with notions of architecture and the work of architects (Rendell, 2012).

Birth space architecture has become out of step with the shift in maternity practices towards woman-centred care. It remains set in the techno-rationality adopted early in the Twentieth Century. Jeremy Till warns against perpetuating 'the myth that architecture is just architecture, founded on the twin notions of genius and autonomy' (2005, p.1), leading to marginalisation of the profession. This review of the context of birth spaces demonstrates Till's assertion that the separation of architects from users develops an architectural knowledge base that is 'increasingly irrelevant and, ultimately irresponsible' (Ibid.). Chapter 3 continues this review of the research context through a discussion of research into woman-centred care and the birth environment.

CHAPTER 3

LITERATURE REVIEW: WOMEN AT THE CENTRE OF BIRTH AND DESIGN

3.1 CHAPTER OUTLINE

This chapter interrogates the research context for the thesis and focuses on two key areas: woman-centred care as an important focus of maternity care policy (McGrath & Kennell, 2008), and the development of birth-environment research. Throughout the chapter, the research methods for studies are examined in order to identify the underlying assumptions and approach of the researchers, any issues that may arise from research methods, and how this would influence this thesis. Research is included that evaluates the birth setting (as a birth environment, space or venue), or reflects women's lived experience. This thesis investigates birth spaces²¹, therefore, the interpretive focus in this chapter always returns to the implications for the research of birth spaces grounded in women's experiences.

A peak in research on the theme of woman-centred care (late 1990s and early 2000s) coincided with the inclusion of this model of care in national policy. A wealth of research became available as evidence to reinforce policy aims and exert influence over day-to-day practice in maternity units. In the early 2000s, a wave of research interest in the birth environment followed this peak and reflected an aspiration to make birth environments respond to the concerns of women using them (for example: Fahy, Foureur, & Hastie, 2008; Newburn & Singh, 2003b).

3.2 RESEARCHING WOMAN-CENTRED CARE

3.2.1 Introduction

Literature on woman-centred care falls into two main themes: firstly research relating to midwifery care practices (the main priority for this type of research), and secondly research presenting woman-centred care as a socio-political position.

²¹ The thesis defines birth space as any room, building or outdoor space used by a woman for labouring and giving birth. A woman may use several birth spaces and therefore the relationship between rooms, buildings or outdoor space is also of interest.

There is an argument that all research results are potentially shaped by the latent biases or the professional background experiences of the researchers (Dwyer & Buckle, 2009). Many maternity researchers have a midwifery background and thus midwifery research often reflects the professional practices of the person delivering the care, and examines the lived experience of women receiving that care through a professional filter. Since woman-centred care grew out of critiquing women's medicalised experiences of state-provided birth care in the UK, research also reflects this politicised context.

3.2.2 Midwifery care practices and the three Cs

A framework of 'the three Cs' (Hundley, Milne, Glazener, & Mollison, 1997, p. 1273) of choice, continuity of carer and control informs the majority of woman-centred care research. These themes are persistent goals of policy documents, starting with the publication of *Changing Childbirth* (1993) (chapter 2). Policy aims do not account for pluralism and complex social factors from a woman's life; or how her experience is affected by the people who manage her care (Jomeen, 2007). A significant number of qualitative studies prioritise women's voices and value their knowledge claims but also conclude that the policy rhetoric of the three Cs is simplistic compared to women's actual experience (for example: Edwards, 2005; Jomeen, 2007; Maude & Foureur, 2007; Sjoblom, Nordtrom, & Edberg, 2006).

Choice

Midwives facilitate informed choice through the use of NHS-recommended procedures to present women with information on a range of care options (National Maternity Review, 2016; Pope, Graham, & Patel, 2001). A number of position statements on woman-centred care indicate that women should be supported in making their own choices for their care (for example, the Royal College of Midwives, 2008). A midwife should "offer", rather than present, women with screening and treatment options (Feely, 2017). Informed choice is thought to facilitate autonomy for childbearing women (Hewson, 2004; Kirkham & Stapleton, 2001; Leap & Edwards, 2007). Some campaign groups emphasise women's legal right to make their own decisions in pregnancy and childbirth, including declining care recommended by health professionals (Birthrights, 2013).

A tension exists between the act of a midwife prioritising a woman's wishes, and the notion that personalised care can be standardised and promoted through policy, guidelines and protocols (Feely, 2017). Midwifery practice is mitigated by the litigious culture surrounding maternity care. Fear of litigation challenges the promotion of choice, and midwives ability to deliver personalised care²² to women. This culture discourages midwives from promoting non-standard practices and encourages the use of NHS policy guidelines to deal with requests for

²² Personalisation of care is the extended definition of woman-centred care in *Better Births* (2016).

non-standard care (Downe, 2010; Griffiths, 2014).

Midwifery practice has adopted the use of guidelines first developed for evidence-based medicine (EBM) (Timmermans & Berg, 2010). Standardisation of midwifery care is linked to better practices and the elimination of some cultural and sometimes harmful practices (Kotaska, 2011). However Downe (2010) argues that the evidence used in EBM as well as midwifery, is not always scrutinised for quality before inclusion. This process values standardisation over the social and cultural differences of women (Ibid.). A form of 'guideline-centred care' (Kotaska, 2011) is created that is not compatible with the woman-centred rhetoric of recent policies (National Maternity Review, 2016; NICE Guideline, 2014; Pope et al., 2001; Royal College of Midwives, 2008). Leap notes that the term *women-centred* is also prevalent in midwifery literature which is seen as watering down the message of personalised care (Leap, 2009).

Evidence-based healthcare design (EBD) is usually grounded in the same research principles as EBM (Viets, 2009). EBM research methods often favour the identification of risks from large-scale population studies: risks that are then difficult to translate and apply to a woman's unique circumstances (Greenhalgh, Howick, & Maskrey, 2014). Thus, there is a mismatch of goals between the standards applied to hospital buildings and the provision of birth spaces that respond meaningfully to individual needs. Midwives identify that both the physical and managerial contexts of their practice impact on their ability to facilitate informed choice for mothers and therefore woman-centred care (Pope et al., 2001). This implies that architectural design for birth spaces needs to address personalised care, but a discussion of personalised care is not evident within architectural literature.

Continuity of carer

Continuity of carer refers to the continuous support of the same known birth attendant²³ (Pope et al., 2001). Continuity of *care* is a distinctly different concept which suggests several people can provide continuous support during childbirth (Bohren, Hofmeyr, Sakala, Fukuzawa, & Cuthbert, 2017). Unequivocal benefits for women (Walsh, 2007a) are identified in studies on continuity of care during pregnancy and childbirth (Hodnett, Gates, Hofmeyr, & Sakala, 2003) and continuity of carer during labour (Page, McCourt, Beake, Vail, & Hewison, 1999; Walsh, 1999). Walsh (2004) argues for further research to be completed to resolve two aspects that stimulate considerable debate: when do the benefits of continuity of care start and finish (from pregnancy onwards or just during labour for example) and, should that care be delivered by one carer.

²³ This can be the continuous support of a midwife, a doula or other known birth attendant.

Woman-centred care is also “midwife-friendly care” when supported with an appropriate organisational structure that facilitates a sustainable reciprocal relationship ‘knowing and being known’ (McCourt & Stevens, 2016, p.18) between a woman and a midwife. Person-centred care is evident in a “case-load” midwifery model (McCourt & Stevens, 2016) that provides continuity of carer and autonomy in practice for both the woman and the midwife. A woman establishes a significant relationship over time with a midwife. Social support, reassurance and confidence-building for both woman and midwife are evident in the slowly-developing relationship between midwife and woman (Ibid.). A significant body of work presents the argument for one-to-one care, case-loading and team midwifery (Farquhar, Camilleri-Ferrante, & Todd, 2000; Morgan, Fenwick, McKenzie, & Wolfe, 1998; Waldenström, Brown, McLachlan, Forster, & Brennecke, 2000). This model of care has also been investigated in terms of birth outcomes (Benjamin, Walsh, & Taub, 2001; North Staffordshire Changing Childbirth Research Team, 2000). These researchers sought an evidence-base for organisational change that can lead to more autonomy for midwives in their day-to-day practice.

Green et al.’s (2000) study of what matters to women during labour, found that the competence and sensitivity of the caregiver is as valuable as their continual presence with a woman. McCourt & Stevens (2006) found that minority, young and disadvantaged women place high value on continuity of carer. In relation to the birth venue, this group of women tend to be alienated from hospital-context health services where ‘they often felt isolated, overlooked, anxious, not listened to, and frightened’ (McCourt & Stevens, 2006, p.18). Thus, continuity of carer could positively influence these women’s experiences of a hospital spatial context.

Reciprocity is a crucial component of woman-centred care that is likely to have spatial implications for birth spaces (McCourt & Stevens, 2006). Case-load midwifery is thought to create a unique birth space for the particular woman-midwife relationship based on ‘mutual trust and obligation’ (McCourt & Stevens, 2016, p.19). Birth as a rite of passage is recognised as significant for women and the resulting supportive relationship developed during a woman’s pregnancy has also been shown to enrich a midwife’s lifelong practice (McCourt, Stevens, Sandall, & Brodie, 2006).

A significant factor in this reciprocity is having time to “get to know each other” (Walsh, 2007b). The right social environment for midwife-woman interactions facilitates sharing ‘any small problem bothering you’ during pregnancy rather than the model of information sharing/giving that often takes place in labour; leading to a greater sense of control for a woman (McCourt & Stevens, 2006, p.14). The descriptions of these reciprocal practices in the

work of McCourt & Stevens and Walsh mark these as spatial practices, but they are not articulated in such terms. Architectural researchers, for example *The other side of waiting* (Taking Place, 2009) project at Homerton Hospital do investigate spatial practices but not in relation to woman-centred care practices (see also Section 3.5). The implications of ease of communication and the continual physical presence of another person in the birth space as spatial practice is not known.

Control

Control is not a strong theme in midwifery research but is the aspect of care considered to most directly-related to the birth room and the environment (discussed in detail in Section 3.3.2). “Choice” appears in research exploring the antenatal period, whereas the term “control” is more frequently associated with labour. Women’s experiences are often researched in ways that show the significant role of a midwife in facilitating a woman’s control²⁴. Midwifery research often shows a preference for research that evidences the importance of the midwife role in facilitating control and a woman’s ability to achieve autonomy through her use of space is not well-researched. For example, Sjoblom et al.’s (2006) study of women’s experiences of home birth in Sweden links being in a familiar environment and a woman’s sense of autonomy in childbirth. The researchers do not examine spatial practices and conclude that it is the midwife’s role in maintaining the woman-midwife relationship that impact on a woman’s decision making.

3.2.3 Woman-centred practices as a socio-political position

A second theme positions childbirth as a social process, the system of maternity care as politicised, and woman-centred birth practices as a feminist issue (Davis-Floyd, 2001; Kitzinger, 2012; Stewart, 2003). Transformative aspects of childbirth for a woman are valued by researchers taking this position; as is ‘the profound long-term consequences of empowerment for women, their families and society’ (Brodie & Leap, 2008, p. 151). Woman-centred care, and thus its core tenets, is also seen as a continuation of Twentieth-Century women’s movements and the flourishing of anthropological studies of childbirth during the 1970s and 1980s (Van Teijlingen, 2004). Leap (2009) argues that the adoption of woman-centred philosophy by the RCM as a position statement in 2001 is direct call for political action by midwives to achieve this philosophy in practice, since the RCM is a ‘trade union’ for midwives. Much of the rhetoric of transformation, and the value of social interaction in this politicised and feminist literature, is similar to that of the work of, for example, Borden, Rendell, Frichot and Petrescu on critical spatial and feminist practices in architecture. These parallels have not been explored in

²⁴²⁴ For example: VandeVusse (1999) and Byland’s (2005) qualitative studies of women’s birth stories.

research but are likely to support a woman-centred design approach to birth spaces (critical spatial practices are considered in the methodological discussion of Chapter 4).

Early in the development of a woman-centred model in the 1990s, “normal” birth became conceptualised as a physiological and social process (Van Teijlingen, 2005; Wagner, 1986). Using this perspective, woman-centred care is sometimes interpreted as only for low-risk women expecting a normal birth (Carolan & Hodnett, 2007) and an ‘exclusionary model’ (Ibid.) that does not apply to women with complex social or medical needs. Others argue strongly that woman-centred care is especially needed by women who are vulnerable or socially-isolated (Byrom & Downe, 2007). Most Western cultures have a hospital-based system of maternity care and the language of woman-centred care is often seen to be implicitly ‘anti-doctor and anti-hospital’ (Van Teijlingen, 2005). Women-centred care is also presented as an opportunity to create empathetic and compassionate midwifery practice that honours the spiritual aspects of childbirth that are not always recognised in medical practice (Moloney & Gair, 2015).

The woman-centred model is often presented as a continuation of historical midwifery practices. Childbirth is imagined as a simpler and more social experience in the past, only requiring the support of a known midwife (Kitzinger, 1989). This view has led to the promotion of ‘rediscovering’ (Kitzinger, 2011, p. 99) lost social practices from a mythical ‘golden age’ (Macintyre, 1977) before the rise of medical childbirth practices. Some of the strongest rhetoric advocating midwifery care as a natural and social alternative to medical birth comes from the USA (Davis-Floyd, 1992; Jordan, 1992), where midwifery practice is particularly marginalised (Lay, 2000). More recently, historians have reminded proponents of natural birth that ‘historically [birth] was thoroughly natural, wholly unmedical, and gravely dangerous’ (Burch, 2009) rather than a past ideal model of care.

Achieving a normal birth for most women is a central goal in improving birth environments to facilitate woman-centred care (Department of Health, 2012; Foureur, Epi, et al., 2010; Hodnett et al., 2009). Yet a consensus definition of what is normal childbirth remains elusive (Brooks, 2000; Young, 2009). Debates about the nature of a normal or abnormal birth neglect the complexities of individual experience and downplay the perceptions of individual women that each birth experience is unique and special (Darra, 2009; Powell Kennedy, 2008). Twenty-First Century maternity policy documents have ‘an explicit focus on facilitating normal birth and reducing interventions, partly in response to rising caesarean section rates’ (Maternity

Care Working Party, 2007, p. 4).

Midwifery practices that support women to be mobile in labour are seen as important for facilitating a physiological birth. Thus, facilitating mobility has become a core strategy in woman-centred care and a design strategy applied to the birth environment. In the Twentieth Century, practitioners developed “branded” techniques for remaining mobile in labour. Strategies first created by obstetricians for enabling ‘painless’ birth (for example, Dick-Read, 2004; Lamaze, 1956) were subsequently promoted by lay women. The principles of Balaskas’ *Active Birth* (1991) have been adopted and adapted by midwifery professional bodies (Royal College of Midwives) and antenatal education providers (NCT)²⁵. The Royal College of Midwives ended their *Campaign for Normal Birth* in 2017 in favour of promoting physiological birth, stating that the words ‘campaign’ and ‘normal’ are unhelpful for women who then feel pressurised into achieving a vaginal birth without interventions (Sandeman, 2017). This is a matter of language since the RCM continues to promote physiological birth with its more recent *Better Births* campaign.

The appropriateness of language is often discussed in relation to woman-centred care as constitutive of cultures of practice (Brodie & Leap, 2008; Hewison, 1993; Hunter, 2006). Language is seen to have the ability to empower women to give birth in the most appropriate way to suit their individual circumstances (for example, the philosophy of the Positive Birth Movement (Hill, 2017). Some scholars propose that woman-centred language is language that focuses on the woman’s behaviour patterns and her emotional and cognitive experiences (Duff, 2005; Hunter, 2006; Kitzynger, 1985). Lock and Gibb note the limitations of language in describing maternal experience because of the cultural, literal and symbolic meanings in language (Lock & Gibb, 2003). Women’s words for childbirth are not seen as conveying legitimate knowledge (Hunter, 2006) compared to the validity of medical terminology as a written and techno-rational language (Kitzynger, 1985). I note in my own practice that women adopt medical language to describe their experiences, especially for more complex births, since this is how their birth experience is presented to them by their carers. Using medical birth terminology in normal conversation is seen as reinforcing ‘the control of the provider at the expense of the woman’ (Hunter, 2006, p. 120). Hunter also evaluates that in a hospital context, medical language is socially controlling and removes the social meaning from birth (Ibid.).

In the past, midwifery researchers absorbed medical terminology in order to inherit

²⁵ These upright labour postures are often described as *Positions for Labour* (Shilling, 2007).

legitimacy from the medical model of childbirth (Hunter, 2006). Qualitative research reporting women's voices has emerged relatively recently. The study of language in midwifery often focuses on communication between midwives, doctors and women (Berg, Lundgren, Hermansson, & Wahlberg, 1996; Macintyre, 1982; McCourt, 2006; Rowe, Garcia, Macfarlane, & Davidson, 2002) and patterns of language (Stapleton, Kirkham, Curtis, & Thomas, 2002), rather than in relation to women communicating with their own choice of words and meanings. Some scholars focus on how maternity language demonstrates power relationships and women's agency in childbirth (Hunter, 2006; Kitzinger, 1985; Martin, 2001; Montgomery Hunter, 1991; Rudolfsdottir, 2000).

3.2.4 Spatial practices investigated in women-centred-care research

Overall, research on woman-centred care does not strongly recognise spatial practices or the physical layout of a birth space as influencing woman-centred care. Differences in typical care practices associated with different venues (home, hospital, alongside- and freestanding-midwifery-led units) are recognised, for example Iida, Horiuchi, & Porter's (2012) study in Japan. A limited number of midwifery sources consider spatial practices in some form: the book *Birth Territory and Midwifery Guardianship* (Fahy et al., 2008) presents new theories (primarily based on social theory) on the role of the spatial context within a woman-centred approach to care. Similarly Berg et al. (2012) develop a model of woman-centred care that requires a 'birthing atmosphere': 'a place of birth that radiates feelings of calm, trust and safety' (Ibid., p. 83).

The spatial context for the majority of literature is presented in terms of the professional culture that exists for a certain birth venue. A hospital context is recognised as presenting women with a 'hidden rule... if a woman wants to access a hospital as a place to give birth, she must submit to medical control' (Fahy, 2008a, p. 3). There are instances of researchers using hospital midwifery practices as a reference point for standards of care even when studying home birth practices (Bortin, Alzugaray, Dowd, & Kalman, 1994). In doing so, studies miss the nuanced changes in midwifery care in different settings and the social significance of birthing at home (Ibid.).

3.3 RESEARCHING THE SPATIAL CONTEXT OF BIRTH: LANGUAGE AND DEFINITIONS

This section shifts the chapter focus onto research concerning the spatial context of birth. Language is as important to the spatial context as it is to woman-centred care and a number of terms are discussed here. These terms identify distinctly different ways of researching the spatial context and the thesis uses the definitions that follow. *Birth environment* is the primary

term used in this area and this identifies the physical aspects of a room that relate to clinical care of a woman or physiological birth. *Birth venues* are researched as an overall spatial context, such as a hospital, alongside-, freestanding midwife-led unit or house as buildings, rather than birth rooms. *Birth space* research reports the spatial aspects of a spatial context. The thesis interpretation of *birth space* is aptly described by Parratt and Fahy's:

Labour/birth "space" or "environment" as encompassing the woman's physical surroundings, the people who are with her, and everything that happens or is done to her in that space. (Parratt & Fahy, 2004)

The word *environment* has different meanings for different disciplines: in midwifery this describes the clinical care and working-environment inclusive of people; in architecture this describes the physical setting and is closer to Parratt and Fahy's description (2004). A midwifery perspective often discusses the provision of physical labour aids and care that supports the natural secretion of labour hormones. The RCM relate physical aspects (safety, cleanliness and privacy) to clinical needs:

A chosen, comfortable, clean, safe setting that promotes the wellbeing of women, families and staff, respecting women's needs, preferences and privacy. The physical environment supports normality and compassionate care. (RCM, Sept 2016, p. 12)

In a 2003 NCT national survey of women's views, relates the birth environment to a women's sense of autonomy, as the;

Aspects of the physical environment women considered important, and to what extent women had a sense of control over their environment during labour. (Newburn & Singh, 2003b, p. 1)

The focus on *environment* in birth-environment research appears influenced by the dominance of environmental science research as an evidence-base for healthcare architecture. Some birth-environment researchers note that they aspire to articulate the value of the birth environment in EBD's techno-rational terms of heating, lighting and surface materials: for example, Foureur, Epi, et al., 2010; Newburn & Singh, 2003b; Symon, Paul, Butchart, Carr, & Dugard, 2008c. This has led to a, primarily, functionalist understanding of birth spaces as places that facilitate straightforward physiological birth (Thompson, 2003) through using the right environmental factors (Ulrich et al., 2008).

The influence of the 2003 NCT survey (Newburn & Singh, 2003b), and the 2005 follow-up survey (Newburn & Singh, 2005), are one likely reason for the continuing and common use of the term *birth environment* in maternity care. This NCT national survey of women's views continues to be the main referenced source in many subsequent studies. Some studies adapt the research methods (for example Symon, Paul, Butchart, & Carr, 2007) or cite it as evidence of women's views on the birth environment (Foureur, Epi, et al., 2010; Hodnett et al., 2009;

Mondy, Fenwick, Leap, & Foureur, 2016; Rudman, El-Khoury, & Waldenström, 2007). The surveys are acknowledged in the work of birth-space architect, Bianca Lepori (1994).

Fahy et al. (2008) created the concept of *birth territory* to communicate notions of power, control and relationship and acknowledge the social construction of a birth space (Fahy, 2008b). Birth territory extends beyond the physical space in ways that the term birth environment cannot. Fahy's use of the term encompasses a woman's experience of the journey to motherhood from early pregnancy and much of her theory has emerged from applying social theory (for example, the work of Foucault) to midwifery practice.

Architect Bianca Lepori provides a number of descriptive terms in *Freedom of movement in birth places* (1994): *birth setting*, *birth place*, *birthing room*; and occasionally references *environment*. In her later work *Mindbodyspirit Architecture: Creating Birth Space* (2008), she consistently uses *birth space* to define the room where birth takes place, reserving *birth place* for the birth venue (Lepori, 2008). In discussing *birth space* she considers one room to be able to provide all that is required for a woman and facilitate 'the natural process' (Lepori, 1994, p. 7). She proposes her concept of *birth architecture* as the integration of technology, physicality, and spirituality in a room:

... designed for "housing" the psycho-physical expressiveness of the woman and child, and the emotive and affective expressiveness of the family. (Lepori, 2008, p. 96)

Birth environment, *birth venue* and *birth space* are now discussed along with the implications for research methodology and methods of using each term to define the spatial context.

3.4 RESEARCHING THE BIRTH ENVIRONMENT

3.4.1 Representations of the birth environment in research

There are a number of key representations of the birth environment in research: within the context of achieving the three Cs of woman-centred care in practice; as facilitating privacy and dignity through care practices; as a homely birth environment; women as aesthetic consumers; and as a means to facilitate mobility and an undisturbed physiological birth for a woman.

The three Cs of woman-centred care

Control (over environmental factors) is the key consideration in birth-environment research. The recent Department of Health *Improving Birth Environments: Capital Fund* (2013b) made a woman's environmental control a priority. That women make a choice of a birth venue is not explicit in this research domain. Continuity of carer is often the assumed context in midwife-initiated research as part of an optimum birth environment. For example, Fahy et al. (2008). Researchers often separate the evaluation of the spatial context from a midwifery practice context so that the birth environment is presented as either midwives protecting a woman's

birth territory as part of a working environment; or as physical space that facilitates free movement for a physiological birth (Ibid.).

Some midwifery researchers propose that environmental control such as changing the lighting level or heating settings are linked to power relationships (Fahy et al., 2008a; Newburn & Singh, 2003b). For Lepori (1994), control relates to a labouring woman's ability to move freely in any particular room. Fahy et al. (2008a) discuss the importance of who grants permission to enter or leave as signifying control. Mundane activities (for example who is able to make a cup of tea and where they are allowed to drink it) are known to influence a woman's sense of control over the environment (Newburn & Singh, 2003b).

Birth-environment researchers focus on women's control over heating, lighting and sound transmission (Hauck, Rivers, & Doherty, 2008; Symon, Paul, Butchart, Carr, & Dugard, 2008b). This is "controlled control" because which parts of the room can be controlled is decided by clinicians and architects at the design stage of a project. An example of this is the Hodnett et al. (2009) pilot study for a randomised control trial. For the study, members of staff were trained to intervene and make suggestions to a labouring woman if she does not use the room in the intended way.

Privacy and dignity

Research evidence that privacy and dignity are important for labouring women is mainly implied from research on patients in broader hospital contexts, rather than from empirical studies of women's experiences of labour. The UK Department of Health's 2013 *Capital fund for improving birth environments* aimed to enhance privacy and dignity for women in the refurbishment of maternity facilities (Department of Health, 2013b). Privacy and dignity are often bound together as important aspects of patient care (Whitehead & Wheeler, 2008). Baillie describes patient dignity as 'complex and multi-faceted, relating to feelings, control, presentation of self, privacy and behaviour from others' (Baillie, 2009, p. 23). Patient dignity is important in clinical ethics (Chochinov, 2007; Lothian & Philp, 2001; Pullman, 2002) and an aspect of human rights for legal claims within maternity care (Prochaska, 2013).

Principles for maintaining the bodily privacy and dignity of a patient in a health setting assume that patients are vulnerable and unable to care for themselves due to illness (Baillie, 2009). Most hospitals use curtains around a door and blinds to windows to preserve patients' visual bodily privacy (Lin & Tsai, 2011) but little is really known about how a patient status in a hospital context affects a person's sense of dignity (Chochinov, 2007). Maternity policy no longer describes labouring women as patients (National Maternity Review, 2016) and the dignity requirements of labouring woman have been the focus of only one study (Birthrights, 2013). People value respect shown by a care giver for their bodily dignity and affirmation of

their personhood when receiving treatment (Lin & Tsai, 2011). Care-givers' attitudes to labouring women are particularly pertinent since labouring women are in a heightened state of consciousness where their perception of physical sensations such as smell, taste, vision alter, and they remember conversations with distinct clarity (Parratt & Fahy, 2004).

In contrast, EBD researchers primarily investigate privacy primarily in terms of speech privacy, overheard private conversations and the propagation of sound through materials (Barlas, Sama, Ward, & Lesser, 2001; Hagerman et al., 2005; Joseph & Ulrich, 2007; Karro, Dent, & Farish, 2005; Philbin & Gray, 2002). Data privacy, information security and confidentiality are also noted as important in a modern healthcare venue (Appari & Johnson, 2010). The privacy afforded by single-occupancy birth rooms is seen as promoting family-centred care and leading to women's greater satisfaction with birth (Janssen, Klein, Harris, Soolsma, & Seymour, 2000).

A homely birth environment

A significant number of researchers claim that women want a homely birth environment (Hodnett, Downe, Edwards, & Walsh, 2005; Lepori, 1994; Mondy et al., 2016; Newburn & Singh, 2003b, 2005; Shin, 2004; Symon et al., 2008c). A 'homely' birth environment is usually presented as the opposite of a hospital environment (as a 'non-institutional ambience' in a hospital room (Department of Health, 2013a, p. 4)). In Newburn & Singh's NCT survey of women's views, descriptions include 'homely (not hospital like)', 'a homely, non-clinical room' or a room with a homely 'feel', 'atmosphere' and 'homely-looking' (Newburn & Singh, 2003b, 2005). No study exists that seeks to positively define what women mean by 'homely'. Other empirical studies find that a woman labours better in her own environment (Holmes, Oppenheimer, & Wu Wen, 2001; Rahnama, Ziaei, & Faghihzadeh, 2006) and that community-based care reduce medical interventions such as caesarean section (Homer et al., 2001). Pluralistic understandings of home emerged in geography and sociology research of the 1980s and 1990s but the majority of this is not feed into maternity research.

Hayward's (1975) definition of home is closest to how home is presented in birth-environment research: as a physical structure, territory, locus in space and a social and cultural unit. A personalised or woman-centred definition of home might be that of De Certeau, Giard and Mayol who identify that home can be conceived as the private and domestic territory one withdraws to which 'by definition, cannot be the place of others' (1998, p. 145). Similarly, Somerville (1992) portrays home at the heart of a person's understanding of self and a personalised ideal. Other authors propose home as a mirror, a place of self-expression (Cooper Marcus, 1995).

A trend for adapting rooms with domestic items has emerged and is primarily initiated by

midwives. This is not always viewed as appropriate. It is common practice in midwife-led units but a study by McCourt et al. (2016, p.18) found that 'some obstetricians [are] dismissive about what they saw as midwives' unnecessary preoccupation with interior design' (Mccourt et al., 2016, p.18). McCourt et al. suggest this could relate to the historically-gendered roles of midwifery and obstetrics and the conception of domesticity in birth centres as "white middle-class" (Ibid.). Some birth researchers question whether changing surface qualities (colour choices and soft furnishings) can achieve an 'homely' effect (Hodges, 2000; Newburn & Singh, 2003b; Lepori, 1994). Fannin describes the practice of hiding medical equipment behind attractive curtains or in domestic-looking cabinets as 'medical camouflage' (Fannin, 2003, p. 516). Hodnett et al. agree that 'home-like rooms draw on notions of domesticity and the naturalness of birth' (2005, p. 5) but remain technology-based rooms.

A hospital context conceptualised as a 'home place for its inhabitants' (Gilmour 2006) occurs in healthcare design in relation to patients who have a long-term relationship with a particular hospital building. It is not evidenced that the same factors that make "home" for these patients apply to women arriving during labour. Applying domesticity as an aesthetic is problematic and researchers note that home does not equate to control for all women just as domestic space is not necessarily "safe" for a woman (Mccourt et al., 2016). Home is a place of terror for some people (Darke, 1994; Goldsack, 1999). Studies of home (Binns & Mars, 1984; Deem, 1986; Sixsmith, 1992) similarly identify that being home-centred is not always viewed as attractive (especially for women caring for children, the unemployed, or elderly).

Contemporary critical spatial and feminist theories critique notions of domesticity as not neutral space, and as gendered spaces that imply gendered roles (Heyman & Baydar, 2005; Rosner, 2005). I interpret Saegert and Winkel's (1990) concept of home, as a cultural symbol of gendered roles, as similar to other researchers' representation of the birth room as a gendered space with associated notions of power and control (Fannin, 2003; M. Macdonald, 2006). Kanes Weisman articulates this as:

The home, the place to which women have been intimately connected, is as revered an architectural icon as the skyscraper. From early childhood women have been taught to assume the role of 'homemaker', 'housekeeper', and 'housewife'. The home, long considered women's special domain ...' (Kanes Weisman 2002, p.2)

Not all definitions of home can be re-created in a hospital homely birth environment. Benjamin assesses that home fits around the person concerned, their social networks and 'the physical and abstract aspects of domestic daily life at several simultaneous spatio-temporal scales' (Benjamin, 1995, p. 158). Phenomenological studies propose home as the centre-point from which a person experiences and defines the rest of the world (Case, 1996). Home has emotional, spiritual and existential aspects for the owner (Fox, 2002). Early investigations of a

notion of home took a theoretical and stance that did not acknowledge embodied experience (Moore, 2000). Only a few empirical studies exist that explore home as a concept (for example Case, 1996; Ozaki, 2002).

Fannin argues that healthcare designers' adoption of 'homely' birth rooms assumes a 'heteronormative' concept of both home and birth. She critiques their use as 'not unambiguously liberatory' for labouring women (Fannin, 2003). It also diminishes architecture to 'a form of covering' (Colomina, 1992, p.91) where the production or use of space is not investigated. Domestication of hospital spaces 'might supplant the material space of the hospital, but the conventional patient–health professional relationships of power remain intact and unchallenged' (Gilmour, 2006, p.17).

Only Lepori (1994; 2008) applies architectural theory to the domestication of birth rooms. For Lepori (1994), homeliness for childbirth is not a particular colour or piece of furniture but space to move freely, to choose one's own comfort and ease. A space which contains fittings that support bodily needs: this is homely defined in relation to the physiology of birth.

Newburn and Singh's birth-environment surveys (2003b, 2005) are likely to have precipitated "homeliness" as a persistent research theme. Recent birth-environment research continues to promote the application of a domestic aesthetic to birth rooms (for example, Mondy et al., 2016). Across healthcare design, promoting the creation of a domestic birth environment has become a metaphor for creating an alternative to a medical space within an institutional environment (Van der Linden et al., 2016). There is the potential for domesticity to be applied in a healthcare setting in a number of different ways that are not evident in the narrow understanding of a domestic space commonly utilised in hospital settings. An example of alternative forms of domesticity comes from how well-known architects, who design Maggie's Centres, refer to domesticity as having several different characteristics. Some did want to create the "feel of home" but others seek an 'intuition of space, a 'domesticated scale' or a 'domesticated layout' (Van der Linden et al., 2016, p.527) even though the footprint of a Maggie's Centre is larger than that normally expected for a house.

Women as consumers of homely birth rooms

Consumerism within maternity care (from the 1990s onwards) increased the promotion of homely birth rooms. Fannin (2003) notes that a woman's status shifts in home-like hospital birth spaces from 'a patient into a consumer of birth ... as the site of birth is privatised and domesticated within the homelike hospital' (Fannin, 2003, p.531). Maternity researchers regularly ask women to rate and evaluate design elements of birth rooms in terms of attractiveness (Sheehy et al., 2010; Shin, 2004; Symon et al., 2007). A domestic aesthetic is interpreted by researchers as an appropriate design strategy for birth rooms because women

respond positively to this suggestion in research (Mondy et al., 2016; Shin, 2004).

A research focus on what women want in birth rooms is mitigated by the application of commercial ideals to women's birth choices. NHS reform policy places maternity units in competition with each other to attract women to use their services. Fannin proposes that the practice of applying political economic processes and domesticity to hospital birth rooms leads to the marketing of birth and produces 'new desires and subjectivities [in women] that reify and reinscribe hospital birth as natural and the domestic as ideal' (Fannin, 2003, p. 531).

Rutherford and Gallo-Cruz (2008) found that maternity hospital websites select images of birth rooms to create an idealised version of birth based on the rhetoric of the natural birth movement. Women are encouraged by marketing to believe that the aesthetics of birth rooms in certain venues will grant them a natural empowering birth (Ibid.). Women imagined as consumers of birth, and domesticity as a "rebranding" of birth, do not fundamentally change women's birth experiences (Fannin, 2003). Fannin argues that presenting hospital spaces as representing women's homes normalises a potentially medical experience (Ibid.). She argues that such practices attempt to subsume a radical critique of medicalised birth in a context of 'cost-effectiveness, consumerism, and patient rights' (Fannin, 2003, p. 531).

What interests women and what they might want from birth spaces, is often what they already know (Newburn, 2006; Teijlingen, Hundley, Rennie, Graham, & Fitzmaurice, 2003). In the popular press, the TV show *One born every minute* has been complimented for its balanced and educational portrayal of birth (Saner, 2011). Internet and TV representations expose women to what birth rooms are and potentially manipulates what women expect and want, rather than leading them to question the images they see (Fannin, 2003). Cresswell (2004) notes that people form an understanding of a place through meanings shared by others as well as through actual experience. A research focus on what women *experience* in birth spaces could critique the underlying political, economic, cultural and symbolic social processes behind the representations of birth rooms to which women are exposed.

Facilitating mobility: undisturbed and physiological birth

Birth-environment researchers often focus on a labouring woman's freedom to move in a birth room (Foureur, Davis, et al., 2010; Lepori, 1994, 2008; Walsh, 2007a) and on physical affordances to facilitate physiological birth (Fahy et al., 2008; Lepori, 1994) through. The well-established layout of Twentieth-century hospital birth rooms with the assumption that a labouring woman would assume the role of a patient and remain motionless and supine on a hospital bed (Hodnett et al., 2009; Walsh, 2000; Janssen et al., 2000). Gould predicts also that, upon seeing a bed in the room, a woman becomes less mobile as she expects to be cared for on the bed (Gould, 2002). In obstetrics the hospital bed is valued as a tool for supporting

obstetric practice and mobility in labour is treated with caution. For example, Storton's (2007) obstetric review of research studies investigates whether movement in labour could be harmful for a healthy woman.

Birth-environment research draws evidence from research that shows that labour progresses well if a woman can be freely mobile (Walsh & Newburn, 2002a). US research shows that policies encouraging movement result in shorter labours, more efficient contractions, greater comfort, and less need for pain medicine in labour (Simkin & Bolding, 2004; Simkin & O'Hara, 2002). Lepori's first interest in birth spaces developed from sketching the movement of labouring women (Lepori, 1994) and this work led her to examine characteristics of the birth space that promote or inhibit this movement (Lepori, 2008). Newburn & Singh (2003b, 2005) asked women to rate aspects of a room that they found helpful or unhelpful for physiological labour. Other examples of this physiological research focus are Hauck et al. (2008) and Hodnett et al.'s (2009) empirical studies that added design interventions to birth rooms to test if these increased rates of physiological birth.

Traditional labour props and techniques²⁶ tend to be promoted by childbirth activists (for example the work of England (2010); Hill (2017); Kitzinger (1991)). Simkin developed her three R's of childbirth (relaxation, rhythm and ritual) as beneficial to a woman in normal labour. Her approach proposes that rhythms and rituals are women's spontaneous responses to contractions and labour events (Simkin, 2001). Similarly, the midwifery researcher Jowitt published a book of *dynamic positions* in labour that, she explains, women find instinctive, concluding that without the freedom to move 'birth will be more painful than it needs to be' (Jowitt, 2014, p. 90). These props and techniques, as well as the strategies of Balaskas' *Active Birth* (Balaskas, 1991), currently influence the selection of equipment provided within midwife-led rooms to support the mobility of a labouring woman (such as slings, a gym ball or a birthing pool).

3.4.2 The research motivations, methods and findings of birth-environment research

Two political motivations drive most birth-environment studies: firstly, to improve women's satisfaction with their birth experience, and secondly, increase the number of women having a physiological birth (Fisher, Hauck, & Fenwick, 2006; Foureur, 2008; Hauck et al., 2008; Hodnett et al., 2009). Birth-environment research questions primarily express a concern for what women want in birth rooms and combine this with a techno-rationalist understanding of architecture, for example through the provision of sets of standard room requirements or design tools as research outputs. Birth-environment studies primarily identify low-cost

²⁶ For example, the use of a rebozo (a Mexican woven shawl) by a birth partner to support a woman to sway in labour (Shilling, 2007).

improvements to existing buildings as a practical way to encourage change (Newburn & Singh, 2003b). Thus, most studies focus on furniture, such as the use of hospital beds (Hodnett et al., 2009) or the provision of 'labour aids' (Newburn & Singh, 2003b) or objects to create a controlled multi-sensory space²⁷ (Hauck et al., 2008).

Specific items of furniture are associated with certain birth outcomes by researchers, for example associating a hospital bed with a medical birth (Hauck et al., 2008; Newburn & Singh, 2003b, 2005; Walsh, 2000). Studies often focus on environmental factors such as, control over heating and lighting, and operational factors such as cleanliness (Newburn & Singh, 2003b; Symon et al., 2008b). Researchers tend to select methods and present evidence in order to lead to new building quality standards and therefore produce birth rooms of a higher quality for facilitating physiological birth (for example, Newburn & Singh, 2003b, 2005). At the same time, this way of presenting findings calls for rooms to be standardised rather than personalised for each woman's needs during childbirth.

Newburn and Singh's NCT survey of women's views (2003b) and the Symon et al. study (2008) produce outputs of room data sheets. Room data sheets are common in healthcare architecture as an effective way of recording the highly-regulated and technical requirements of a medical space. Clinical and medical needs remain prioritised in birth environments because they fit within a larger hospital context designed and researched by EBD architects with medically-based research interests: for example, research examining infection control (Lankford et al., 2006; Noskin, Bednarz, Suriano, Reiner, & Peterson, 2000), medical lighting (Buchanan, Gibson, Jiang, & Pearson, 1991) and speech privacy (Hagerman et al., 2005). *Appendix B* [B.1] explores further the themes that EBD healthcare architecture address. In EBD research, topics are often examined through quantitative positivist methods (Swan, Richardson, & Hutton, 2003) whereas the same topic might be investigated in a more qualitative manner within the social sciences.

Midwifery-based birth-environment research methods unconsciously reflect a similar techno-rational design culture. A good example is Hodnett et al.'s (2009) empirical study of design interventions to create an 'ambient' birth room designed as a pilot study for a randomised control trial²⁸; a form of research approach that is highly-valued in evidence-based medicine. The researchers removed the bed²⁹ and added dimmed lights and 'ambient equipment' (double-sized mattress, birthing ball, projections, images of nature, music players

²⁷ A room designed to give stimuli to the various senses, such as through lighting and sound effects, colours and scent.

²⁸ Randomised control trials are seen as the most rigorous form of medical research.

²⁹ The language of the study report is interesting because to remove the bed implies that having the bed there represents normality.

(Hodnett et al., 2009)). The success criteria for these design interventions are reported as clinical outcomes: immediate birth outcomes, medical interventions during labour and type of birth (Hodnett et al., 2009).

EBD healthcare researchers do not tend to engage with maternity policy concerns in their research activities. Equally other architectural researchers working within maternity settings do not explicitly react to the agenda of woman-centred care. *The other side of waiting* (Taking Place, 2009) is an arts-based research project at Homerton Hospital in London and resulted in six artworks incorporated into the recently-refurbished mother and baby unit. The researcher-practitioners created pieces in response to the reported and observed experiences of women, partners and staff. *The other side of waiting* normalises medical experiences of childbirth in the topics the artworks address (for example cervical dilatation, or experiences of waiting rooms). The agenda of woman-centred care as a critique of medical experience is not referenced and perhaps demonstrates the subliminal nature of the medical message in the birth environment (Gould, 2002). Birth-environment research focuses on equipment, furnishings and fittings with a birth room. Birth venues, discussed next, focus on comparison between types of birth venues, primarily examining safe birth in terms of maternal and infant mortality and morbidity.

3.5 RESEARCHING BIRTH VENUES

Ever since maternity care became a public health issue, researchers have compared clinical outcomes for home- and hospital-based births (Cahill, 2001; McIntosh, 2013; Tew, 2013). These studies now also compare birth outcomes for alongside- and freestanding- midwifery-led units as these become more established within the state-provision of maternity care. Birth venues are primarily researched in order to identify which venue offers the safest birth (Hodnett, Downe, Walsh, & Weston, 2012; Overgaard, Møller, Fenger-Grøn, Knudsen, & Sandall, 2011; Waldenstrom, Nilsson, & Winbladh, 1997).

The findings of *The Birthplace Study* (Brocklehurst et al., 2011) reversed the conclusions of earlier comparative studies (1950s-2000) that always concluded that hospital is the safest venue for childbirth. Brocklehurst et al. (2011) compared birth outcomes for all types of UK birth venues and found that planned home birth and midwife-led units are as safe as hospital for low-risk women, and are associated with less intervention and fewer complications (Ibid.). Other recent research (Hodnett et al., 2005; Olsen & Clausen, 2012; Olsen & Jewell, 1998) draws similar conclusions to *The Birthplace Study* when comparing birth venues. These studies primarily used quantitative methods, only studied women expecting a low-risk birth, derived data from women's medical records, and reported findings as statistical data.

Different women hold differing concepts of safety and risk for a particular birth venue. Lock and Gibb (2003) found that women focus on the physical discomfort of hospital and the psychic comfort of home; and note that 'hospitalisation was not emotionally safe. Women who entered hospital ran the risk of becoming encultured into dependence' (Ibid., p. 136). Women view midwifery-led units (or birth centres) as a compromise between home and hospital (Kirkham, 2003; Walsh & Downe, 2004), which is suitable for women who could safely birth at home but prefer not to do so (Brocklehurst et al., 2011). The safest birth environment is proposed by Parratt and Fahy as:

One where the woman feels in control of who is present and what attendants may do. This environment enables the woman to let go of her need to be vigilant so that she can turn inward and respond intuitively to her body, facilitating her potential for a natural birth which is the safest birth of all. (Parratt & Fahy, 2004, p. 11)

A woman's feeling of safety is considered fundamentally important for spontaneous birth (Taylor & Kornfield, 1995). Some researchers propose that care providers should offer a number of environments to a woman, since the safest place is the one that gives that particular woman the best outcome (Hodnett, 1989; Odent, 1984; Wagner, 1994). An empirical study by Parratt and Fahy (2004) identified that a woman feels safe, she finds an internal focus and an altered state of consciousness that optimises labour (Parratt & Fahy, 2004). A number of other maternity research studies report similar findings (for example: England & Horowitz, 1998; Gaskin, 2008; Halldorsdottir & Karlsdottir, 1996; Odent, 1984). The sophisticated and high levels of surveillance over childbearing women in modern hospital design is likely to inhibit this process of altered consciousness (Davis & Walker, 2010; Stenglin & Foureur, 2013).

3.6 RESEARCHING BIRTH SPACES

Increasing numbers of studies research the birth environment and birth venues. However, research on spatial aspects of women's experiences is very limited. One research study (Symon, Paul, Butchart, Carr, & Dugard, 2008a) and one body of theoretical work (Lepori, 1992, 1994, 2008) focus on spatial aspects of the physical context. No studies examine the role of the spatial layout in shaping social interactions or a woman's experience during childbirth. The space studies conducted in order to produce the Department of Health (2013a) design guidance document for maternity facilities (appraised in Chapter 5) are not published and cannot be reviewed.

The Symon et al. (2008a) study used mixed-methods to examine users' (woman, partners, and staff) experience of the interior design and environment of nine maternity units in the UK. A study examining women's perceptions of space during childbirth is included within the much

larger scope of the published work. In this study, Symon et al. (2008) define space as the 'critical dimensions' that allow the efficient functioning of the expected activities of a birth room. The quantitative research method used a sixteen adjective grid describing features associated with maternity units: for example, cramped or spacious, cluttered or tidy (Symon et al., 2008a). These adjectives were presented to women in linked positive and negative pairs. Thus, rendering the findings limited to those aspects selected by the researchers as important. Asking women to report satisfaction with a birth room presents an overall impression of a space, and does not record how a woman's perception of space might change at different points during labour.

The study also assessed women's level of mobility in a space, and whether women felt able to re-arrange furniture in a birth room during labour. The researchers conclude that differences in consultant-led and midwife-led care were the deciding factor in a woman's level of mobility in a room. The size of the room or its spatial layout was not seen as impacting on mobility in the study; and an investigation of women's perception of moving at home was not included. The researchers acknowledged that labouring women use communal spaces of a hospital building, but the findings concentrated on birth rooms. This is an exploratory study 'to open up this subject' (Symon et al., 2008a, p. 114) of perception of space in relation to maternity units, suggesting the need for further research.

Architect Lepori understood birth as a normal part of life and a physiological process (Lepori, 1994) and designed her architecture 'from the body' (Franck & Lepori, 2000, p. 46). She provided layouts that are a response to the likely position and posture of people in a birth space based on her observations of labouring women (1994). Her theoretical design work for birth rooms challenges conventional ideas about the use of furniture and spatial layouts (Franck & Lepori, 2000). Some postures, such as sitting in a chair, are seen as a matter of cultural habit and her work challenges how people find affordances in a space (Franck & Lepori, 2000).

3.7 RESEARCH METHODS UTILISED TO ELICIT WOMEN'S EXPERIENCES

3.7.1 Introduction

This section examines research that focuses on woman-centred care and the spatial context of childbirth. It considers how women's experiences have informed this research, in order to examine the appropriateness of grounding a space-based study in women's experiences.

3.7.2 Women's experiences of woman-centred care

I interpret that in woman-centred care research, the primary motivation for investigating women's experiences is to provide qualitative evidence for creating a woman-centred

maternity service through adapting existing maternity practices. Evidence from women's experiences is also sought in research to precipitate changes to maternity policy for all women at a national scale.

Most midwifery studies seek a rich understanding of women's experiences through qualitative methods, small sample sizes (5-30 participants, for example Jomeen, 2007; Edwards, 2005) and self-selected participants (Hunter, 2009; Jomeen, 2007; Larkin, Begley, & Devane, 2012; Maude & Foureur, 2007; VandeVusse, 1999). As Larkin explains, these researchers are interested in the 'reality of childbirth rather than simple "physical" events' (Larkin et al., 2012, p. 99). The study findings do not readily generalise to other maternal populations, making influence over future policy or guidelines more difficult (Jomeen, 2007). Maude and Foureur (2007) contest this, proposing rather, that these studies produce 'new and richly textured understandings of experiences' (Maude & Foureur, 2007, p. 22) that are important for policy but difficult to elicit in large population studies.

Research as part of politically-motivated campaign work tends to use quantitative methodologies: examples include the Birthrights Charity's *Dignity in Childbirth* national survey (Birthrights, 2013), the NCT/Women's Institute's *Support overdue: women's experiences of maternity services* national survey (Bourke, 2013) and the NCT surveys on the birth environment (Newburn & Singh, 2003b, 2005). The researchers seek to present women's experiences that are "absent" from policy, through the publication of freely-distributed reports: for example, dignity for women in childbirth (Birthrights, 2013), support during labour (Bourke, 2013) or an appropriate birth environment (Newburn & Singh, 2003b). Some reports cite limited direct access for interviewing postnatal women as a reason for using questionnaires and online research methods. Midwifery-based researchers appear to have more direct contact with women for interviews than campaigning groups and tend to publish in peer-reviewed academic journals: thus, reaching a different audience to the online publication favoured by campaigners.

The extensive use of research questionnaires for birth-environment research means that the questions asked necessarily reflect the priorities of researchers. A good example of this is Hunter's (2009) study investigating whether women's experienced midwifery care as 'being with woman'. 238 women responded to a Likert scale questionnaire; Likert scales are designed to elicit preferences for each question asked and not the priorities or interpretations of the respondents. In Hunter's study, women gave preferences for specific aspects of midwifery care which, by implication, the researcher had identified as potentially important in her research questions. Such questions are likely to be a reaction to events contemporaneous with the conduct of a study. Thus, events such as the opening of new birth centres as politically-charged

within NHS Trusts (Kirkham, 2003) may have influenced Hunter's study, as well as a desire to examine the meaning of woman-centred care as part of midwifery practice. The findings showed that women scored more highly for their relationship with their midwife if they gave birth or started their care in an alongside birth centre, compared to a consultant-led unit. There is no doubt that experiences of different birth venues and the tenets of woman-centred care are important to women. However, when midwifery researchers formulate research in which women can only respond to pre-defined questions, it is difficult to know whether women may conceptualise and experience these concepts differently to those providing maternity services.

3.7.3 Women's experiences within birth-environment research

Women's views are the primary source of data in birth-environment research. Similarly, to Hunter's (2009) study critiqued in Section 3.7.2, birth-environment research employs a limited, predominately quantitative, range of methods and often favours questionnaires designed for statistical, rather than thematic, analysis (Newburn & Singh, 2003b, 2005; Rudman et al., 2007; Symon, Dugard, Butchart, Carr, & Paul, 2011; Symon et al., 2007). Birth-environment research as researcher-led can be illustrated through an analysis of the origins of a "homely" birth environment as a well-established research finding and design principle for birth spaces. I reviewed the findings of the two NCT surveys (2003b; 2005) for occurrences of the concept 'homely' in either the text of the researcher-produced Likert-scale questions or in the women's responses to the open-ended questions. A notion of homely is present in the researcher's questions more times than in the women's responses to more open-ended questions (which they had read after the reading the researcher's questions). This suggests that the concept existed as something of interest to the researchers before gathering women's views.

A few (mainly Australian) birth-environment studies employ similar methodologies to that found in qualitative woman-centred care research. Hauck et al.'s (2008) study of Snoezelen³⁰ sensory adaptations to a birth room favoured qualitative interviewing and grounded theory to elicit women's experiences of the room (Hauck et al., 2008). Foureur, Epi, et al. (2010) who developed the Australian *BUDSET Tool* (Chapter 2) also claim to have a woman-centred focus. When I investigated these studies further, they often relied on the knowledge of midwives more than the experience of women. Hauck et al.'s Snoezelen study required women to attend antenatal education so midwives could show them how to use the room during labour. Foureur et al.'s (2010) *BUDSET Tool* uses a literature review and the experience of 'experts' (architects, midwife clinicians, and researchers) to define key aspects of the birth environment

³⁰ Snoezelen is a multi-sensory environment first created in the 1970s by Dutch therapists Jan Hulsege and Ad Verheul at the DeHartenburg Institute.

without the involvement of women in this stage of the research. Hence, the research focus arose from valuing the knowledge of health professionals over the experiential knowledge of women.

3.7.4 'Hearing the expert' and birth stories

Some scholars argue that hospital-based childbirth practices and the techno-rational development of obstetrics have removed woman's voices and replaced them with the scientist's view of childbirth (Callister, 2004; Sterk et al., 2002). An example of this practice is the content validity study (Sheehy et al., 2010) for the *BUDSET Tool* (see Section 2.3.1). The researchers conclude that the *BUDSET Tool* is valid within a woman-centred framework despite validation primarily by midwives. The content was presented to three separate panels of midwives, pregnant women, and women who had already given birth. The midwife panel broadly agreed with the characteristics defined for an optimal birth environment. The women's panels, especially the pregnant women with no birth experience, identified some characteristics as invalid for an optimal birthing room (Sheehy et al., 2010). Sterk et al. comment that 'when we look at and talk about birth, we see and hear the experts' (2002, p. 1). The dominance of scientific thought in this domain suppresses 'narratives, stories, trajectories ... Science-writing takes the life out of processes' (Massey, 2005, p. 25).

This chapter has demonstrated that midwifery and birth-environment research engages with women but is not necessarily woman-led. Research topics are usually determined by academics, policy-makers or private industry rather than, as is relevant in the case of maternity research, women themselves (Cheyne et al., 2013). In health-related research women rarely identify the research questions (Ibid.) since health professionals are thought to be able to represent patients' points of view and their concerns (Cheyne et al., 2013; Tallon, Chard, & Dieppe, 2000).

The thesis argues that engaging with women's birth stories is likely to elicit what is significant to women, and what they retain and craft into their narratives around birth. Birth stories are known to be retained by women across a whole life time (Callister, 2004; Davis-Floyd, 2003; Simkin, 1991, 1992), thus, revealing their significant value in a mother's life. Simkin's work, investigating women's long-term memories of their first births, showed that 'women had vivid memories of what happened in childbirth, what was said or done to them, and how they felt' (Simkin, 1992, p. 64). The physical aspects of labour had lesser importance in women's long-term memories (Ibid.) but conversely are the main focus of birth-environment design to facilitate physiological birth. Research, such as this thesis, grounded in women telling their own birth stories gives women the opportunity to define what they talk about and reveals their social practices.

Using stories in research replaces objectivity and privilege with ‘positionality and subjectivity’ (Kohler Reissman, 2013, p. 169). Speier proposes a strong link between a woman’s birth experience and ‘the conduct of the human environment surrounding her’ (2001, p.10) but that our understanding of the complex and psychological components of childbirth are poor (Ibid.). Similarly, in Davis-Floyd’s autobiographical work *Windows in space and time* (2003), she strongly connects the memory of events with the places she occupied during the birth. Speier (201) argues that obstetric practices ignore the impact on a birth of a woman’s pre-existing way of life: ‘the issues that are consonant with their life prior to delivery will surely play out during the drama of birth’ (Speier, 2001, p.11). Dramatic or traumatic birth stories are most likely to be shared by women, as a ‘peep hole onto the hazy presence of danger’ (Pollock, p. 4).

Pollock remarks that ‘birth stories are everywhere and nowhere’ (1999, p. 1) implying that many women³¹ carry their birth stories with them but opportunities to share them with a willing audience are limited. Social conventions on which details of a birth can be shared mean that, although birth stories abound, few stories about the spatial context to birth exist in Western culture and birth stories are not linked to the birth environment within existing research. A hospital environment as the backdrop to birth may be so ubiquitous as to not warrant explaining in a woman’s story of birth.

In general, women’s birth stories reflect similar socially-constructed expressions of the nature of birth: those aspects recognised by health professionals, family and friends (Schneider, 2002). Women readily share certain scenarios and details, articulating them in relation to events along a linear timeline (Pollock, 1999). Klein et al. identify that ‘women tend to want what the society values and what this technocratic society values is a high technology in almost every aspect of life’ (Klein et al., 2006, p.248). Informal birth story-based knowledge is found in places aimed at a mother audience as opposed to an expert audience of health professionals, such as in pregnancy books (one example is *What Mothers do: especially when it looks like nothing* (Stadlen, 2005)) and on the internet (websites such as *netmums*) or reality TV programmes (like *One Born Every Minute*). The latter TV programmes often dramatically re-tell the medical aspects of births, and are seen as unhelpful misrepresentations of birth (Basten, 2013).

Extant midwifery research has started to utilise birth stories to access ‘the social context and meaning of birth and mothering in women’s lives’ (Carolan, 2006, p. 67) and as a resource for improving midwifery practice (Moloney & Gair, 2015; Callister, 2004). Birth stories as data

³¹ Since the focus of the thesis is on women’s experiences, I only mention women here but I also note that other people present at a birth also carry a story with them.

are deployed in three ways: analysed thematically; through the use of midwives' narratives as data; and by presenting women's birth stories verbatim without analysis (Carolan, 2006). Similarly to Sheehy et al's BUDSET study (2010), Carolan (2006) recommends validation of findings through the expert second opinion of a midwife. The validity of birth stories as research data is accepted but the thesis proposes that research could be more woman-led if the knowledge a woman gains through birth experiences is also viewed as expert knowledge.

3.8 CHAPTER SUMMARY

Research examining woman-centred care and the birth environment emerged from similar philosophical positions. Midwifery research has a tendency to focus on the concerns of policy makers and the development of professional practice (Delaney 2006) rather than women's embodied experiences. Reciprocity and continuity of relationships are noted in maternity research as significant for woman (and midwives) within woman-centred care. However, facilitating physiological birth and domesticity are the main foci of birth-environment research. Evidence-based design research does not directly engage with the tenets of woman-centred care.

Birth-environment research readily accepts the techno-rational practices of healthcare architecture without recognising similarities in research approach to the medical practices it critiques. Critical spatial practices and forms of architecture that share philosophical roots with woman-centred care are rarely applied in the state-funded or midwifery research context of childbirth.

Quantitative and qualitative methods are used to elicit women's views in midwifery and birth-environment research. An earlier adherence to positivism in midwifery research, through close association with medical research, has shifted to a valuing of qualitative methods (Walsh & Evans, 2014). Birth-environment research has lagged in its adoption of qualitative and visual methods but is now "catching up" in contemporary research (for example, Bowden et al. 2016; Mondy et al. 2016). As Walsh and Evans (2014, p.e4) argue, 'biomedical research has tended to look narrowly at clinical problems'. Downe and McCourt (2008) note the importance of examining the theoretical foundations for research as well as findings. The use of randomised control trials within midwifery and obstetric research attribute simplicity, linearity and certainty to labour (Ibid.) and do not 'capture the intricacies of the uncontrolled milieu of a labour ward' (Walsh & Evans, 2014, p.e2).

The thesis proposes there is a need to interrogate spatial meaning in relation to women's experiences. Birth language and the telling of birth stories show birth is commonly understood as a temporal experience not a spatial one. Studies of spatial configuration and spatial

practices are limited to Symon et al. (2008a) and Lepori's architectural work (1994; 2008). There is however, increased engagement of spatial practitioners with midwifery researchers, for example the work of Foureur and Davis Harte (2017).

The health professional as expert and women as “objects of research” remain apparent in some key studies which differs from the interpretivist, person-centred approach taken in the thesis. The work of Cheyne et al. (2013) demonstrates the potential insights to be gained from research questions identified by women themselves and the importance of scrutinising assumptions and the premises on which research is conducted. Walsh and Evans note that:

Unless the right questions are asked about the reality we are attempting to describe, explore or explain, then our knowledge of that reality will remain superficial and impoverished and is less likely to make a difference to childbirth practices and women's experience. (2014, p.e1)

By grounding this thesis in both midwifery and architectural knowledge, some disciplinary boundaries are broken that have, in the past, prevented architectural engagement with the design potential of woman-centred and personalised birth spaces. The thesis argues that some of this lack of reaction is because the construction of an academic context for research in any domain is often through reference to prior discipline-based research and excludes the contribution of other useful sources of knowledge that cannot fulfil the role of persuading an academic peer audience. Hyland notes that ‘academic citation practices contribute to the construction of disciplinary knowledge’ (1999, p.341) and that research papers are written as a social interaction with peers in a discipline-based academic community (Ibid.). Architects can engage with production of birth spaces by re-appropriating birth space in the same way that architects have re-appropriated other healing spaces, for example, through the person-centred design brief of Maggie's Centres (Jencks, 2015).

The nuanced and individual space-based experiences of childbearing women are likely to necessitate a methodology that transgresses disciplinary boundaries. Gilmour similarly proposes that ‘hybridity’ is needed in maternity research to ‘fuse the divergent constructs of hospital and home’ (Gilmour, 2006, p.20) and replace conceptual boundaries through a ‘theoretical analysis’ and reaction to the limitations of existing discourse boundaries (Ibid.). The modernist techno-rational conceptual boundaries set for birth and for birth spaces are starting to be challenged within space-based and visual birth environment research published in the last two years, for example, Mondy et al. (2016) and Foureur and Davis Harte (2017). The methodology and methods that follow in Chapter 4 represent “starting again” to design from women's stories of actual births as situated experience within the contemporary context of maternity care in the UK.



METHODOLOGY & METHODS

"We are completely lost. And we have even forgotten to raise the most simple question – what are the basic needs of women in labour? ... Like a traveller who suddenly can realise that he took a wrong way. The best thing to do in this case is to go back to square one, to the point of departure and to take another direction."

Obstetrician and theorist Michel Odent (Epstein, 2008, p. 23mins)

some
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thing?

small
al!

Remember
much
bright
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private

no set up their own birth spaces ... what do they put in them?

CHAPTER 4

METHODOLOGY AND METHODS

4.1 CHAPTER OUTLINE

This chapter begins with a re-iteration of the research aim and objectives in order to explore their relationship with the research methodology. The reflexive work of the thesis continues from the *bios* work of Chapter One into *logos* work in a discussion of the impact on my research practice of my positionality and reflexivity. A description of the methods follows, explaining how the different data types combine as representations of architecture: the *production* of birth space by designers through policy guidance documents and the *consumption* of birth space by labouring women through drawings and interview transcripts. The application of the analytical methods is explained as the examination of visual and written ‘semiotic materials’ (Ledin & Machin, 2018) and through techniques that value spatial experiences during childbirth as relevant to architectural design.

The research aim emerged from my experience of the policy and practice context rather than a theoretical position. This is congruent with the work of the social theorist Bourdieu who grounded his theoretical work in the empirical studies that he completed. He argues that a researcher should have a situated practice and apply a clear distinct methodology that emerges from the particular context of the case under study (Bourdieu et. al 1968/1991). The methodology draws from a number of disciplines and sources to explore and rethink epistemological concerns that emerge from women’s experiences of birth space. This is a researcher practice that Bourdieu describes as conducting ‘epistemologically vigilant’ (1968/1991, p.11) research since the researcher reacts to the particular case they are studying rather than forming a methodology based on a pre-selected theory. I propose this is of fundamental importance for the thesis aim and rethinking how birth spaces are understood by those who design and inhabit them.

4.2 METHODOLOGICAL DISCUSSION

4.2.1 Aim and objectives

The research aim for the study is:

To understand how women experience the places where they labour and give birth in order to inform the design of birth spaces.

To meet this aim, I address the following objectives, to:

- 1. explore how women experience spaces during labour and giving birth.**
- 2. identify any personal significance women perceive or associate with these spaces and the events that take place in them.**
- 3. appraise current design recommendations for the spaces where women labour and give birth, in the light of the findings from this research.**

Below, definitions are given for the terms used in the research aim and objections in order to introduce the initial parameters for the project. The thesis intentionally acknowledges the ‘uncertain boundaries’ (Eagleton, 2013, p.98) of what a birth space “is”, and what childbirth “is” for a labouring woman as a reaction the hegemony of the partogram³² for recording the duration of childbirth and the focus on ‘just one room, the space and place of birth’ (Foureur & Davis Harte, 2017, p.108) in birth-environment research. The boundaries for definitions are expected to emerge from the interpretation of the thesis data. This is congruent with Eagleton observation that just because something can be identified as having certain characteristics, for example experiences that are pertaining to childbirth, ‘does not necessarily mean that we always know for sure where it ends and another [experience] begins’ (Ibid.) both in space and time.

Labour and birth

Labour and birth has a medical definition as three stages of physiological activity of the uterus and cervix based on Freidman’s obstetric observations (1955). I extend this standard time to the earlier *latent phase* (where contractions or labour events come and go over time) and later to include the first hour after birth (considered important for establishing a baby’s emotional health and breastfeeding (Odent, 2007b)).

Place and spaces of birth

I do not place exclusions on what is considered a birth space so that anywhere that a woman identifies as part of her experience is included, not just rooms officially identified as “birth rooms.”

Design

In the thesis, *design* is applied as both a noun and a verb; and to mean the social and technical process of envisioning, representing and creating physical spaces as well as the resulting physical space itself. It follows from this that *designers* are here understood as anyone involved in this design process, with or without professional training (commissioners, stakeholders, clinicians, architects, equipment manufacturers, users).

³² The partogram is a graphical representation of the progress of labour in which the salient information about the fetal well-being, maternal well-being and the progress of labour are recorded into a chart.

4.2.2 Evidence and discipline-based knowledge

Disciplinary norms define evidence (Hirst & Peters, 1970; Lovatt, 2013). Evidence-based healthcare architecture and midwifery research primarily ground authentic knowledge in the rational or empirically observable and measureable, similarly to the tenets of logical positivism and logical empiricism³³. For example, the technical domains of architecture -structures or environmental studies - recognise an objective reality of architecture as a built form (Groat & Wang, 2013). In the context of birth space, evidence-based healthcare design prioritises a laboratory-based, material and environmental conditions version of valid evidence (Verderber, 2010). Lovatt describes the assumption that one or two forms of knowledge can exist as logical positivism's greatest 'error' (2013, p.71) since, later in the Twentieth-century, thinkers began to understand that 'facts are never given in isolation from the minds that receive them' (Ferre, 1982, p.761).

The thesis examines the discipline-based processes for producing knowledge for birth spaces and how it might be produced in the future from multiple situated forms of knowledge. The thesis approach is similar to Habermas' forms thesis (1972, 1974) which rejects 'partitioned knowledge sets as ontological reifications' (Lovatt, 2013, p.71). Habermas instead characterises knowledge as three 'cognitive interests': an 'empirical analytic' type of knowing; a 'historical hermeneutic' or 'communicative knowledge' way of knowing (from relating to and dialogue with others); and a 'self-reflective' way of knowing (through knowing oneself). For Habermas, all three of these cognitive interests apply regardless of the discipline area and I propose that these are relevant for architectural praxis since architecture has the potential to touch the practices of many other domains; and relevant to women's experiences of birth spaces. Habermas recognised that previous understandings of forms of knowledge, such as the disciplinary 'forms'³⁴ devised by Hirst and Peters (1970) limit the knowledge pursued in any given subject area.

The many binary schemas that exist in the context of birth spaces and birth-environment research, mark disciplinary boundaries: into obstetrics and midwifery, clinicians as producers and women as consumers of space, medical and social models of childbirth, and home-like versus clinical birth environments. Luhmann argues that knowledge created within a binary schema model creates a blind spot to other types of knowledge that do not fit. This model has a 'presumptive completeness' (Luhmann, 2018, p.152) so that knowledge is known in

³³ Examples of similar philosophical approaches are the logical positivism of Ayer (1936) and the logical empiricism of Hempel (1905-1997) and Oppenheim (1885-1977) that established the validity of scientific methods.

³⁴ These forms of knowledge were thought to adhere to an appropriate methodology for each separated domain: Mathematics and Logic, Physical Sciences, Human Sciences, Literature and Fine Arts, History, Philosophy and Religion.

“either/or” terms rather than “and/both”. Borch (2002) formulates this blind spot as similar to Soja’s concept of Thirdspace (1996); and as the spatial location assumed by the observer who is making the binary or disciplinary distinction. Thus, the thesis argues that a new perspective can come from stepping outside of one’s own disciplinary blind spot. The methodology is an act of moving between disciplines in order to examine what it is that the disciplines of architecture and midwifery overlook in birth spaces, as part of the process of producing new knowledge.

Blind spots can be a metanarrative (Lyotard, 1994) that strongly influences knowledge production but that is not explicitly acknowledged by a discipline as an influence. A relevant example of this is the metanarrative of modernism that idealises the ‘technologising’ (Taylor and Saarinen, 1994) of modern life. This has clearly influenced healthcare architecture and the early development of the NHS maternity service. Woman-centred care is also an ‘incipient’ (Ibid.) metanarrative within maternity policy that has the strength to drive campaigns for improving the birth environment (Department of Health, 2012; 2013b) and implicitly influences assumptions for birth-environment research methods. The contextual work of the thesis has developed an understanding of these ideas that influence practice in order to provide a richer interpretation of the data.

4.2.3 Representations of architecture and architecture as representations

The thesis interprets architectural representation and also women’s experiences through representations of childbirth and birth spaces. Representations operate to maintain and reinforce certain social and spatial orders (Rendell, 2016), particularly in the role that policy documents take in influencing practice. The methods of data collection and analysis developed for this thesis utilise the visual, as the core means by which architects represent and understand architecture; in order to understand the production and consumption of architecture.

A traditional understanding of architecture is that of buildings produced by professionals as ‘self-contained objects’ (Borden, Penner & Rendell, 2002, p.10); and later discussed by critics, theorists and historians post-construction (Ibid.). However, ‘architecture continues’ (Ibid.) as a temporal activity beyond practical completion in ‘experience, perception, use, appropriation and occupation’ (Ibid.). Colomina takes this line of reasoning further to suggest that: ‘the perception of space is not what space is but one of its representations; in this sense built space has no more authority than drawings, photographs, or description’ (Colomina, 1992, p.75). Representations of architecture represent social realities: ‘space is at once both real and metaphoric: space exists as a material entity, a form of representation and a conceptual and political construct’ (Borden et al., 2002, p.9). Architectural representations

(architects' drawings, images, texts, theories, and histories) can be utilised in research to increase knowledge of the nature of architecture (Schneider, 2017; Borden, Fraser & Penner, 2014).

Outside of architecture, the written word is the primary mode of transmitting academic knowledge (Sousanis, 2015), yet in the Twenty-First Century: 'the modern world [is] a "seen" phenomenon' (Rose, 2016, p. 3) with a global occularcentric culture of the image (Jay, 1994). This offers significant challenge for "how" to investigate women's experiences of birth space. The space-based knowledge sought here is not a written product and not even normally transmitted through the spoken language of birth stories – birth narratives usually focus on time (Ólafsdóttir & Kirkham, 2010).

4.2.4 Critical spatial practices

The thesis examines situated spatial practices and has an interpretivist research approach (O'Donoghue, 2006). Interpreting social and individual practices is particularly relevant for childbirth (Walsh & Evans, 2014). Jane Rendell defines research which utilises critical spatial practices (after the work of Geuss, 1981) as forms of knowledge that 'offer self-reflective modes of thought that seek to change the world' (Rendell, 2016a, p.41), reflect on their own procedures and methods and do not subscribe to 'a particular methodology or solution to a problem' (Ibid.).

Examining whether research is woman-led or researcher-led is an important part of reflective research practices in maternity care, since knowledge has an 'intersubjective construction' (Hall & Callery, 2001, p. 258) and is open to the interpretation of the researcher as well as the researched (Geertz, 1973; Mol, 2002; Walsham, 1993). The internalised world of individuals (as cultural beings and social actors) contribute to the larger social reality and vice versa (Bieber, 1999). Thus, spatial practices within birth spaces are significant because rooms and buildings are not socially-neutral. Meaning is rather created as individuals interact with and interpret objects or spaces, rather than lying dormant within an object (Crotty, 1998).

As the researcher, I interpret critical spatial methodologies within the thesis with a level of pragmatism, reflecting my experience as a spatial practitioner and an antenatal teacher who deals with clients' practical living issues. I have a need for the research to have 'the dimension of usefulness' (Åge, 2011, p. 1606). The research aim and objectives firstly deal with 'the practicalities of "what works"' (Scott and Briggs, 2009) and lead onto the higher level of theoretical and design implications of the findings. This then manifests within the critique of existing design tools and policy-related documents, and in providing evidence-based practical outputs.

The thesis considers the ‘socially and historically conditioned context’ (Flyvbjerg, 2001, p. 130) of the study as significant. History and culture influence attitudes (Burr, 2015) and birth spaces are interpreted as socially-constructed (Holstein & Gubrium, 2013). Prior notes how hospitals are designed and operate within a social system of knowledge:

Inter-relationships [that] hold between forms of knowledge, social practice and physical design ... Schemes of spatial organisation [*buildings*] are best understood in relation to the discursive practices of which they form a part rather than as decontextualised and reified social facts which exhibit their own “logic”. (Prior, 1988, p. 86)

The methodology situates women’s experiences within contemporary attitudes towards childbearing women, childbirth itself and the buildings where women give birth. In the context of the thesis, the production of birth spaces maternity policy and design guidance represent is the ‘structure’ governing women’s individual agency; and human interaction at an organisational level is also significant for birth spaces. In his concept of ‘sociological imagination’, the social theorist Wright Mills (1959) identifies the need (in sociology research) to understand ‘the interweaving of individual agency with structure through time’ (Bourdieu et al. 1968/1991) – an understanding that Bourdieu also embraced in his work (Ibid.) and of relevance here.

4.2.5 The human significance of birth space

There is a human significance to birth spaces. The temporal and spatial experiences of labour for a woman have qualitative differences to the quantified linear representation of time and space in design guidance and medical literature. Architect Bianca Lepori (2008) and designer Doreen Balabanoff (2016) argue that spatial designers need to value the importance of these spaces as ‘the site of entry into life on earth, a most profound human experience’ (Balabanoff, 2016, p.12). Goodman, a Public Health Expert describes the experience of labour in the film, *The Business of Being Born* as: ‘you switch on a light switch and you go to the moon, it’s a different, it’s an other worldly experience’ (Epstein 2008).

My interpretation of the content of women’s birth stories is that they have the characteristics of Soja’s *Thirdspace* (1996):

Simultaneously real and imagined “other spaces” ... in which our individual biographies are played out, in which social relations develop and change, in which history is made. What Lefebvre called lived space (*l’espace vécu*), an all-embracing and never fully knowable spatial reality ... Foucault called *des espaces autres*, not simply translatable as “other” but as “significantly different” spaces. (Soja in Borch, 2002, p.113)

The architectural theorist Jennifer Bloomer wrote a reflective piece late in her pregnancy on the uniqueness of this qualitative experience of the relationship between time and space:

One of the moments when it becomes abundantly clear what a peculiar construct time is, occurs during the so-called nine months in which one holds a tiny, developing project within one’s own body. Toward the end, time, which yesterday flew like a hurricane, full of the debris of everyday life, flows like the proverbial molasses in January. And this restructuring of time does not go without its concomitant reconfiguration of space. By this I mean something beyond the very present fact that one can no longer reach the

triangle on the far side of the drafting table or the normal-permanent-press-delicate button on the now distant horizon of the clothes drier. It is more metaphysical than that; it is how the space takes on an anticipatory otherness. I tell you (many of you I do not need to tell, for you know well already), the furniture waits. Stark, empty, ticking. Waiting, waiting, waiting for "something that is about to happen." (Bloomer, 1992, p.8)

The thesis exploration of these types of inner space-based experiences was facilitated through the selected qualitative visual methods which are known to facilitate the investigation of difficult to verbalise or articulate experiences (Sweetman, 2009).

Scholars question the dominance of time-based practices for maternity care and time-based explanations for understanding childbirth (Maher, 2008; McCourt, 2013; Simonds, 2002). Labour progress is measured through cervical dilatation rates (Friedman, 1956; Strobel et al., 2006) and recorded progress on a partogram³⁵. Time factors predict when physiological labour progress has become pathological and thus within the domain of obstetric care and knowledge (Duff, 2005). However, measurement of time is not an objective reality. For example, theoretical physics ascertains that time changes materially with location. Rovelli notes that 'times are legion: a different one for every point in space ... time is elastic in our personal experience of it' (2018)³⁶.

Previous birth-environment research does not capture these qualitative spatial aspects within women's personal experiences of childbirth. The thesis proposes that birth space can be interrogated in a number of new ways: by architecture designed from a focus on the interiors of buildings (Franck & Lepori, 2000); by drawing on the theory of affordance (Gibson, 1976; Norman, 1988 & 2008; Petroski, 1992); and by examining labouring women's patterns of use of space over time (similarly to the work of Lefebvre (2004), especially in relation to social interactions.

Design practices for maternity facilities, and birth-environment research studies, tend to implicitly assume preferred spatial practices in labour and birth. Many studies focus on how equipment provided in a birth room can facilitate physiological birth³⁷. This narrow focus on certain types of affordance within a room, does not offer opportunities to consider a woman's social interactions within spaces and with objects. The theory of affordance most prevalent in the design guidance for maternity facilities echoes Warren's (1995) theory of affordance through ergonomics: looking at the geometrics of objects which best facilitate use.

Design can encourage certain spatial practices by heightening awareness of certain

³⁵ See definition in Section 4.2.1.

³⁶ Rovelli asserts this through an explanation of the impact of gravity on the measurement of time on the earth with clocks at different altitudes – leading to time 'passing more slowly' in mountains compared to lowlands.

³⁷ There are many examples in existing research: for example, Newburn and Singh's (2003) survey examined what labouring found helpful and unhelpful within a birth room; Hodnett et al. (2009) and Hauck et al. (2008) designed interventions in birth rooms to facilitate physiological birth.

affordances. This echoes Norman's (1988) development of Gibson's theory (1976) to propose that an object has actual and perceived affordances that combine in the relationship between an object and the individual that is acting upon the object. Norman also adds to this definition that the designer of an object creates something that carries a suggestion of how an object should be used; an object offers visual clues as to its function and use. Design can also be proactively employed to facilitate multiple affordances, for example in the architecture of Herman Hertzberger (2000). Gibson's original definition (1976) does not include the hand of the designer and instead proposes that affordances exist for an individual in an environment even if that individual is not aware of the possible action something can facilitate (McGrenere and Ho, 2000). Since women's space-based experiences will include interactions with many different designed and found objects, an understanding of the human significance that women may assign to objects within a space is likely to be relevant to the research aim.

4.2.6 Qualitative visual methodologies

Qualitative visual methodologies underpin the thesis approach. They reflect my interpretivist, pragmatic and woman-centred research position and the earlier contextual discussion of birth spaces produced by architects and maternity service providers, and experienced by women during childbirth.

Form created through the production of 'images' is a core method of teaching architects to design (Schneider, 2017) and a skill architects employ for exploring spatial design and practices. Visual representations of space are common in architecture for the production of space but, I propose, are more rarely used to represent the consumption of space. The thesis examines production of birth space in order to understand women's consumption and experiences of such spaces. Lefebvre (1991) sees perception of space as a way of understanding spatial practices which are situated in 'spaces of representation', where codes and abstract form can be resisted or reinvented. I interpret this to be similar to De Certeau's (1980) 'tactics': those practices which do not obey the law of places and seek to question and critique them. This is the intention of the thesis methodology.

I present a binary distinction here between production and consumption of space solely for the purposes of explaining the choice of thesis data and methods. The research aim deliberately works beyond existing knowledge boundaries for birth-environment by examining situated spatial practices. This echoes Lefebvre's (1991) model for understanding the production of space and acknowledges multiple modes of representations of space, spaces of representation and spatial practices.

Thus, a creative methodology and creative methods (Mason, 2002; Pink, 2012) are most suited to the task of addressing the thesis aim. In particular, qualitative visual methodologies

can elicit how someone conceives something (Feenberg & Hannay, 1995). They capture perception and personal understanding (Theron, Mitchell, Smith, & Stuart, 2011) and, as Mason explains, make it possible to understand ‘invisible visual’ experience and ‘directs our attention to how the visual is embedded in the social, how it works, how we work with it, and so on’ (Mason, 2002, p. 105). Additionally, the thesis seeks to be collaborative, with the researcher working with women to create images. This methodology makes it possible to ‘unpick how people construct the world around them’ (Banks, 2008, p. 10) and enables the researcher to relate reflexively to each participant (Pink, 2013). Reflexivity is a core part of all aspects of the thesis: for myself as the researcher; in my interactions with participants and the data they produce; and for the participants themselves.

4.2.7 Researcher reflective practice and *logos* in the research design

Reflection is a core part of my day-to-day research practice. Here, I consider the training I received on practice-based reflection and how I apply this to my research. Linked to my background (see chapter 1) I expected the research to incorporate my values and to use situational ethics to understand the context of this thesis. My antenatal teacher training in ‘active listening’ (Rogers & Farson, 1957) and ‘teaching with emotional intelligence’ (Mortiboys, 2005) led to ‘double distancing’ (Jenkins, 2014a, p. 21) myself from my response to my own experiences of birth in relation to those of others.

Rendell (2016b, p.338) proposes that ‘a key aspect of situated knowledge is the locatedness of personal experience ... [relating] one person’s knowledge, understanding and experience to another’. The skill of active listening is a significant part of this research in order to elicit and recognize difference in women’s experiences. As Back notes, this is different to cultural norms:

Our culture is one that speaks rather than listens. From reality TV to political rallies there is a clamour to be heard, to narrate and to gain attention...Listening to the world is not an automatic faculty but a skill that needs to be trained...We need to find more considered ways to engage with the ordinary yet remarkable things found in everyday life. (Back, 2007, p. 7)

Bios type reflections became a significant part of the reflective process (personal reflections, as shared in Chapter One) in order for the thesis process to develop my *logos* (reflection-in and – on- action for the developing research). The practice of writing research diaries and creating reflective pieces was important in achieving this aim. This reflective diary practice emerged from my antenatal teaching rather than through my architectural experience which did not offer a model for this practice³⁸. The antenatal teacher reflective practice training I received was strongly based on models of reflective practice found in nursing; for example, the work of

³⁸ I am aware that reflective diary keeping is now part of architectural learning in universities such as at the University of Sheffield.

Bolton (2010).

My researcher reflective practice is also here discussed in relation to *logos* (Rendall, 2016). There is good evidence for producing a situated evidence-base rather than the ‘ready-made answers’ (Doucet & Frichot, 2018, p.1) often provided by healthcare architects who respond to generic health-related design briefs. Doucet and Frichot value reflective practice in architecture and the potential of theory as a practice in order for architecture to ‘reclaim a capacity for agency’ (2018, p.1). They propose that architectural scholarship should provide ‘situated, relational, and embodied perspectives’ (Ibid.). Similarly in healthcare research, Polit and Beck (2008) advise that reflecting on the background and education of a researcher is important. This echoes Hauck et al.’s proposition that the researcher as a ‘data-collecting instrument’ (2008, p. 463) requires that a researcher’s background should be examined as an active part of a research study.

I take seriously my responsibility to propose an ethical methodology based on respect for the women who take part. I take a similar position to Hunter when she proposes the concept of ‘caring research’ (2006, p. 122). This is research that elicits ‘woman-centred knowledge’ and is ‘encounter-orientated, contextual, phenomenal, and experience-based’ (Ibid.). I wish to create a platform for women’s voiced (and drawn) experiences ‘not otherwise heard’ (Woods, 2006, p. 56). Mason proposes that as well as being ‘conducted as a *moral practice*’ qualitative research should give ‘regard to its political context’ (2002, p. 8). Walsh and Evans make a similar proposition for midwifery research as a moral practice with ‘the adoption of a critical lens ... so that women’s empowerment and agency can be addressed as part of the research process and outcome’ (2014, p.e4).

I rejected some possible methodologies on the basis that observation of a woman can “disturb” the progress of a physiological birth (Buckley, 2003; Foureur, 2008; Odent, 2002; Walsh, 2006a). For an ethnographic study, I would need to be present in the room and potentially alter the course of a woman’s labour (Mays & Pope, 1995). A woman’s spatial and sensual experiences of birth spaces and what she associates with a room or object are not observable by a researcher – even if the observer accompanies a woman as she labours. Scholars criticise past maternity care practices that place a woman in the position of a patient, and propose that some invasive research methods are not appropriate (Hunter, 2006; Rudolfsdottir, 2000). Cavan notes that,

Being ethical limits the choices we make in pursuit of truth. Ethics say that while truth is good, respect for human dignity is better, even if..., the respect of human dignity leaves one ignorant of human nature. (Cavan, 1977, p. 810)

Here, I share the format of my notebooks. I used colour-coded notebooks (red denoted research practice) and engaged in “a conversation with myself” about aspects of the research.

I drew and wrote and added reflective comments later on particular actions and the direction of the thesis. The initial reflections on the research data were a direct response to a woman's experience and later notes developed my relationship with the data. *Figure 4.1* is an example of how I used a specific page format: I divided each page into two and recorded initial notes on the left side of the page. I returned to these notes and wrote reflectively on the right side. Sometimes this was the same day, or after several weeks and months. For larger schematic reflections, I drew my thoughts in diagrammatic sketches on A4 dotted paper pads. I also utilised CAD drawing software (*Figures 1 - 5* in Chapter 1). *Figure 4.2* shows the range of formats for this work.

Figure 4.1 Example of notes (left) then reflections (right)

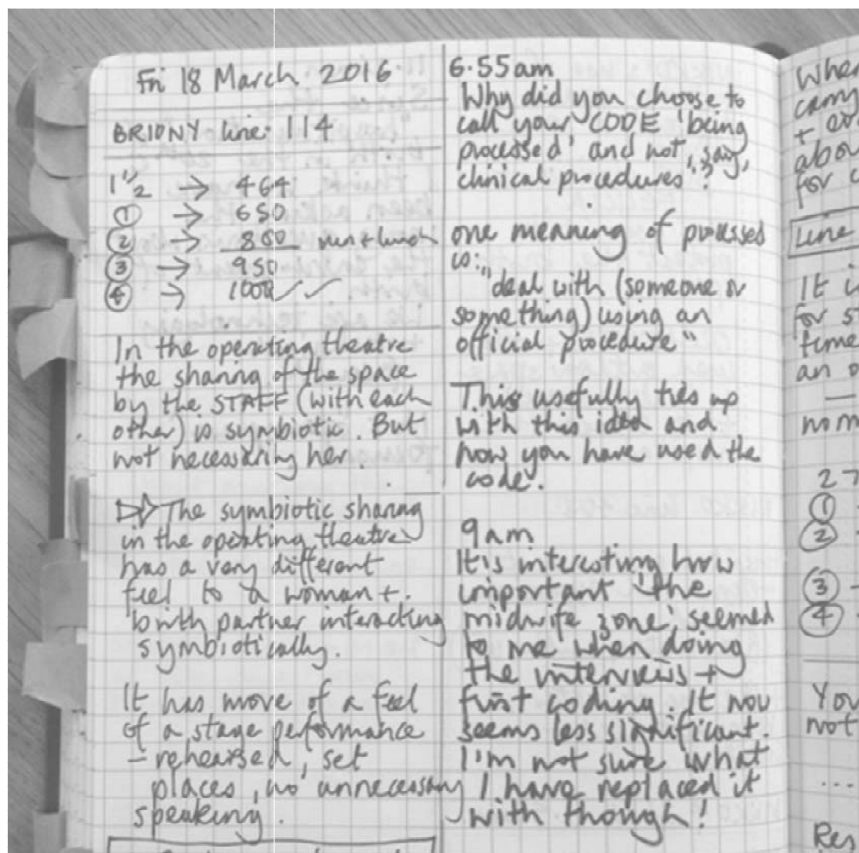


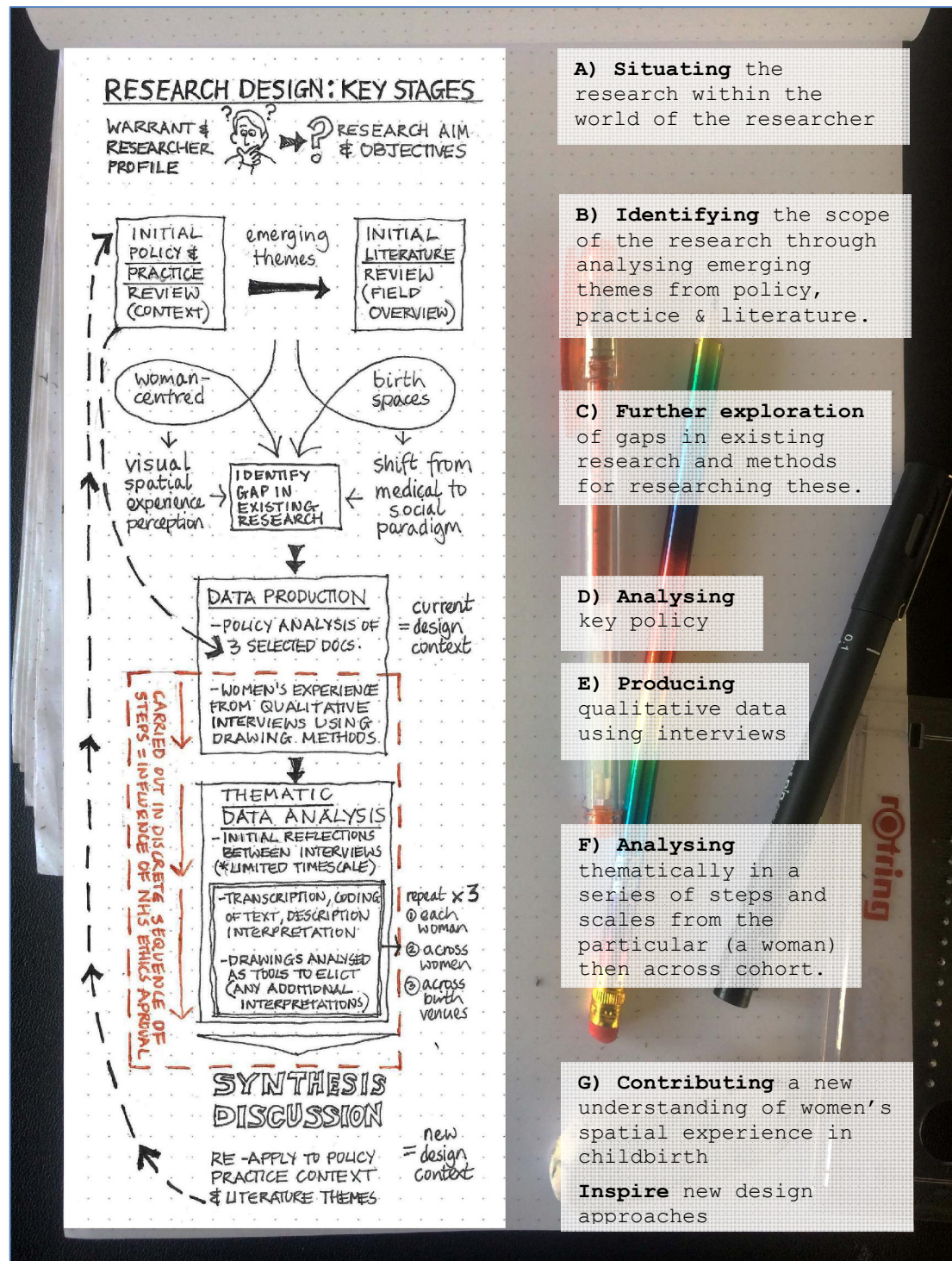
Figure 4.2 Selected examples of reflective diary work



4.3 RESEARCH DESIGN

Figure 4.3 is a visual representation of the research design and presents the thesis as an exploratory and decision-making process, similar to the process-based approach proposed by Bordens and Abbott (2002). This image and the summary below is a simplified version of the research process as a series of well-formed stages; whereas the reality of working through such as process was far more 'messy' as Law (2004) notes is the nature of researching the real life experiences of participants.

Figure 4.3 The structure of the research design



I initially established a working research aim and objectives that strengthened over time in light of reviewed literature and the analysis of the thesis data [Stage A]. The literature review investigated the policy and practice context: initially due to an apparent lack of available literature on birth spaces, but then this also became important in situating the thesis within its context [Stage B]. My practitioner background led to a pragmatic focus on policies that have significantly informed practice; and the creation of evidence-based practical thesis outputs [Stages A, B and G]. A need to explore the relationship between woman-centred practices and

spatial aspects of birth rooms emerged as a significant gap in extant knowledge **[Stage C]**. A critique of core policy and design guidance documents (later re-assessed to include *Better Births*) developed specific knowledge of the current policy and practice producing birth spaces that were typical spaces and potentially similar to those experienced by participants **[Stage D]**. The empirical study of women's experiences of birth spaces and the analysis of findings followed on **[Stages E-F]**.

The study gained NHS ethics approval on 12th November 2014 (approval letter in *Appendix C* [C.1]) to work with women who had used NHS maternity services. Requests made by the Research and Development offices of the NHS Trusts restricted the research design. Both NHS Trusts required the interviews to be completed within a maximum four month period, thus limiting data analysis during the collection period. As a non-health professional, my contact with women could only be through a member of clinical staff when on NHS premises. The requirement to produce a detailed protocol, to a format provided by the NHS, fixed the direction of the research relatively early in the process. The benefit of this protocol is that I considered the whole process in detail and planned it out in advance. A final stage **[Stage G]** compared the themes from the policy, practice and literature review. This stage concluded with the synthesis and discussion of the thesis findings in the context of existing knowledge.

4.4 A COMBINATION OF QUALITATIVE METHODS

4.4.1 Multi-modal methods for production and consumption of birth space

The situated methodology led to selecting methods that examine the relationship between the production/consumption of space and spatial practices; and visual representation as a form of architecture that reveals spatial experience.

The research aim required methods that could elicit women's lived experiences (consumption of space, spatial practices and space as representation of social experience). Methods were also needed to facilitate a critique of both design guidance for producing birth spaces *and* the maternity policy in which birth space practices are grounded (production of space, representations of architecture and social practices within the space). Thus, a combination of qualitative methods emerged. The methods sought to elicit the 'spatially imprinted' (Kanes Weisman, 2002, p.1) and designed messages in these spaces and how they set boundaries for self-concepts, expectations and choices for ways of inhabiting spaces during childbirth.

Known research methods are applied in new ways in the thesis to reflect the space-based situated methodology as one that acknowledges both the external and internal experiences of women labouring and giving birth. To examine inner experiences of an extant physical world

may appear paradoxical (Kane Weisman, 1992) since, historically, space has been ‘the configuration of material forms, mappable “things in space”’ (Soja in Borch, 2002, p.113). Relying only on speech-based language to research lived spatial experiences cannot fully capture unique and private qualities of inner experiences. The thesis examines the human response to physical space, rather than, for example as Cohen et al. (2013) identify as a research aim, human behaviour within physical space alone.

All the methods are selected to provide ‘a fuller picture’ (Turner & Turner, 2009, p. 172) and make connections between the realities that exist within the design of the spaces and when women use them. Triangulation is a recognised concept in quantitative-qualitative mixed-methods research that I adapted (after the work of Denzin’s concept of triangulation, 2012) to ‘map out, or explain more fully, the richness and complexity of human behaviour by studying it from more than one standpoint’ (Cohen, Manion, & Morrison, 2013, p. 254). Triangulation is compatible with the methodology since the combined methods have compatible epistemologies (Silverman, 2000) and the aim is interpretation rather than to discover an objective truth (Fielding & Fielding, 1986) regarding birth space. Triangulation of data is also common in studies of policy documents (Bowen, 2009): for example, using medical records (Rees, 1981), and education policy (Rossman & Wilson, 1985). Ritchie and Spencer recommended this approach for applied policy research (Ritchie & Spencer, 2002) which is also relevant to the thesis aim.

4.4.2 Principles for analysing documents and drawings: semiotic materials

The policy documents and the transcripts / drawings of women’s experiences are analysed with the understanding that architectural and spatial practices both before and after building construction is complete: ‘through the activities of using, occupying and experiencing them, and through the various modes of writing and imaging used to describe, analyse and interrogate space’ (Rendell, 2016a, p.41). Jewitt and Kress (2003) argue that multi-modal documents, such as that of the thesis data, present rhetoric in distinct semiotic modes which I suggest can reveal space and time-based aspects of architecture. They propose that visual language has ‘the logic of space, and the simultaneity of elements in spatial arrangements’ (Ibid., p.2) and written language has ‘to bow to the logic of time and the sequence of time’ (Ibid., p. 2).

The data “artefacts” of the thesis (the drawings produced by the women and policy-related documents) are analysed as ‘semiotic materials’ (Ledin & Machin, 2018, p.5). As artefacts they have ‘materiality, a physical presence and a design’ (Ibid.) and these are experienced through how they are used: for example, their everyday use as policy-related documents or when I analyse them as a researcher. Notions of expertise, best practice, role modelling and use of

technology are all codified within an artefact and can be analysed (Ibid.).

Writing is now more integrated with graphics and images than when it dominated communication in the past (Sousanis, 2015) and more equal attention is afforded to each mode of communication in the thesis. In *New Writing* (2008), Van Leeuwen describes how the actual image has less importance in analysis than the 'semiotic resources such as composition, movement and colour' (2008, p.130) within many semiotic modes including graphics, typography and architecture. He argues that the researcher should analyse not only the visual components (e.g. colour) but the 'normative discourses that regulate their use' (2008, p.133). As Atkinson and Coffey note, documents are not 'neutral, transparent reflections of organisational or occupational life' (2004, p. 77) and can reveal underlying principles and assumptions.

Methods of analysis need to match the increasingly complex and sophisticated use of visual communication within the Western world: 'that may bring certain kinds of associations to the reader' (Ledin & Machin, 2018, p.4). Bowden et al. (2016) note the influence of images in the current digital age in 'dictating women's attitudes, choices and behaviour, before they enter the birth room' (2016, p.71). Women are increasingly learning about childbirth on the Internet (Lagan et al. 2011). Contemporary society has reached 'new levels of visual sophistication' (Ledin & Machin, 2018, p.1) through social media and mobile devices. Thus, I interpret that women will have a visual awareness of birth.

The thesis methods interpret that physical space and the documents describing that physical space, both reveal embodied and social experiences. A visual semiotic approach to analysis recognises that semiotic materials communicate specific social meanings and 'provide the basis for posing and answering concrete research questions' (Ledin & Machin, 2018, p.24). Kane Weisman notes that space similarly communicates social meaning:

Physical space and social space reflect and rebound upon each other. Both the world "out there" and the world inside ourselves depend upon and conform to our socially learned perceptions and values. Neither is understandable without the other. (Kane Weisman, 1992, p.9)

In line with the woman- or person- centred methodology, the representation of people and their relationship to each other and to objects is understood as a representation of social architecture. The visual images within the policy guidance documents and the women's drawings were interpreted as compositional, interactive and representational³⁹. The analysis took into account that the research data gathered contained 'meaning potentials'⁴⁰ (van

³⁹ This analysis work was influenced by Kress and van Leeuwen's (2006) semiotic theoretical framework

⁴⁰ Van Leeuwen defines meaning potentials as both universally recognisable meanings represented in the images themselves, and meanings based on the functional use of a document or image (Kress and van Leeuwen, 2006).

Leeuwen, 2005). The thesis employed situated analysis depending on the context of the visual communication. For example, the analysis of the policy document considered what was communicated for/by a producer of birth space; the analysis of women's drawings considered what was communicated by a user of space.

The analysis of data was situated within the realm of meaning and intent transmitted through spoken language, visual language and physical objects all representing space. Thus, the analysis is informed by Foucault's (1972) identification of language as constitutive communication which systematically forms the objects spoken about. I extended this theory from Foucault to the context of visual language in order to examine how drawings and photographs systematically inform the viewer of the nature of objects and spaces. For example, I viewed the presence of a person in an image or a piece of text as significant within the thesis research context of woman-centred care and this is discussed further in Section 4.5.3 in relation to the policy document critique.

4.5 POLICY GUIDANCE CRITIQUE

4.5.1 Best practice in the production of birth spaces

The policy guidance critique examines the production of birth spaces. It employs methods in order to respond to the third objective of the research aim to appraise the impact of design guidance on women's experiences; and thus, discover alternatives that emerge from understanding women's experiences. Foureur and Harte note in their discussion of birth rooms that 'no space or place is neutrally constructed' (2017, p.120). The birth room is the site where three *practising groups* (Bourdieu, 1990) of architects, clinicians and labouring women, vary in their control over the production and consumption of the space. Objects, equipment and people within the birth space are viewed as having 'ontological complicity' (Rawolle and Lingard, 2013, p.123) with the *habitus* (Bourdieu, 1990) of individuals and groups 'practising' in an open social system which surrounds the physical confines of a birth room. The spatial context is interpreted as the physical manifestations of different philosophies of maternity care (Foureur et al., 2010). The thesis draws from Bourdieu's explanation of practice as a 'flow of social energy' reinforcing certain meanings over others through the reinforcement of practice as 'the core element of social life that require explanation' (Rawolle and Lingard, 2013, p.121).

4.5.2 Selection criteria for the documents

The documents were selected as 'documents-in-use' (Rapley 2007) as the three significant policy-based sources of design guidance for the *production* of birth spaces.

Health Building Note 09-02: Maternity Care Facilities (2013) is the current Department of Health design guidance for healthcare architects who produce new-build and refurbishment projects. The *NCT Better Birth Environment Audit Toolkit* (2003) is the main auditing tool for maternity facilities and often used to inform new build and refurbishment projects. In a first iteration of this thesis, these documents were critiqued with the woman-centred rhetoric of earlier policy: *Maternity Matters* (2007) and *Midwifery 2020* (2010). When published (2016), *Better Births* represented a significant shift in thinking on woman-centred care with the development of personalised care. This change was deemed significant enough to warrant re-analysing the documents.

4.5.3 Situated analytical strategy for policy guidance documents

Photographs, diagrams and text were all assumed to reveal the intentions of the creators and were examined for consistency of message across the various modes and documents. I developed an analytical framework informed by previous relevant research studies (Delin, Bateman, & Allen, 2002; Ravelli & Starfield, 2008; Ritchie & Spencer, 2002; Spencer, Ritchie, Lewis, & Dillon, 2003) noting that spatial designers tend to respond to, and think with, visual images (Tversky & Suwa, 2009). I incorporated recommended approaches for analysing document 'genre:' font choice, salience and layout (Ravelli & Starfield, 2008). Content structure, rhetorical structure, layout, rhetoric, navigational and linguistic structure (Delin et al., 2002) were considered for all the documents to detect nuanced messages within the text and visuals. I applied seven criteria for document production and document genre: Section 5.2.2 describes these criteria in detail.

I developed three analytical questions that draw on existing frameworks for appraising social policy (Ritchie & Spencer, 2002; Spencer et al., 2003) and the quality of qualitative midwifery research (Walsh & Downe, 2006):

1. How is the birth space portrayed in these documents?
2. How have the experience of women informed the rhetoric or the design recommendations?
3. What do these documents reveal concerning any relationship between practices shown and extent knowledge of woman-centred care and birth-environment research?

When analysed as semiotic materials, the content of the documents can be read as 'conceptual processes' (Kress & Van Leeuwen, 2006) with the reader as the 'viewer' interacting with visual content. For documents analysed in this way, interactional meaning becomes an important indicator in the contact or social distance intended with the user of the document. For example: the relevant position of people in images compared to the viewer; text that is written to speak to a particular person (for example, health professional or a woman user); the

perceived distance between viewer and the objects contained within, in this case, photographs of a room (is the viewer observing the room or in contact with the furniture).

Kress & van Leeuwen (2006) propose that images make ‘demands’ of, or make ‘offers’ to the viewer. In particular for the discursive sections in this chapter, when ‘human or quasihuman participants’ are not present, then this simply offers information or objects for contemplation (maintaining a ‘social distance’) rather than demanding a particular relationship with the viewer. Compositional meaning focuses on information value or salience, those texts, images or figures that are larger, or in the foreground are considered of greater meaning to the producer of the document. This understanding of composition was used within the analysis to interpret any further implicit discourse within the documents.

4.6 QUALITATIVE INTERVIEWS

4.6.1 Qualitative visual methods and drawing birth stories

There is no direct precedent for including drawing as a research method within midwifery research⁴¹. Drawing as a method in the thesis is an example of crossing disciplinary knowledge boundaries - proposed as necessary in Section 3.8 – in order to create new understandings of birth spaces. Samuel (2017) notes that ‘mapping’ is a characteristically architectural research method and that ‘architects have a particular skill set in the making of “boundary objects” — models, drawings, reports—that translate knowledge from one community to another’ (2017, p.5). Within the thesis context these ‘communities’ are women, architects, midwives and birth supporters.

Qualitative visual research methods are well-established in social science research (Prosser & Loxley, 2008) and sometimes noted as part of a postmodern ‘cultural turn’ (Dikovitskaya, 2005; Stanczak, 2007). Thus, an increasing number of textbook-style sources are now available that informed the development of the research methods (the ones used for the thesis were: Banks, 2008; Emmison, Smith, & Mayall, 2012; Pink, 2012, 2013; Rose, 2016; Stanczak, 2007; Theron et al., 2011).

My research methods re-appropriated drawing as the tool of the user of space from the architect as the producer of space. The architect’s skill of drawing represents ‘a domain of remote and abstracted expertise that inevitably alienates architecture from its processes of production’ (Awan, Schneider & Till, 2013, p.44). Women drawing birth spaces was a form of ‘walking-with’ a woman as I listened and observed; similar to Awan and Langley’s ‘walking-

⁴¹ Pam England uses drawing in workshops with women to explore their own personal meaning of birth experiences but this is not midwifery research per se. (England & Horowitz, 1998).

with' technique which captures the 'bodily practices' of the migrant (2013, p.4).

By using these methods, the thesis shifts 'spatial agency from the professionalised space of architects and developers to that of the everyday use' (Ibid., p.12). In addition to placing drawing in the hands of spatial users as their tool for spatial agency, I am interested in the broader proposition of 'rejecting the idea that the written word is essentially a superior medium' (Pink, 2013, p. 4). As the primary tool of designers, images are open to increased interpretation by designers such as myself (Tversky & Suwa, 2009). Thus it is important to capture a woman's interpretation of her own drawings as part of the interview. The methods asked women to create the visual data and also reflect on the drawing process to elicit their interpreted meaning.

I designed the interviews so that women saw images of birth rooms only after they recorded their own drawn response to their experience. In the past photographs and video clips were viewed as objective representations, however, they are now known to change memory and perception and have meaning constructed by the creator (Rose, 2016). Showing women photographs aimed to elicit differences between her recall and the memory that a photograph evoked for her⁴².

In early piloting work, I asked friends⁴³ to send me photographs of a "homely space" and write down why it had this meaning for them. The participants responded with rich descriptions, predominantly of the social qualities of these spaces and the memories they invoked. Only for one or two people, could I understand this meaning from the photograph they shared, reflecting the 'polyvocality of images' (Banks, 2008, p. 10) and how the meaning of an image, photograph or sketch is open to interpretation by the viewer (Tversky, Heiser, & Morrison, 2013).

To capture each woman's interpretation of her own drawing, I created a short schedule of questions for use at the end of each interview (*Appendix C [C.2]*). I derived this schedule from the work of Pink (2012) and Rose (2016). The questions reflect Pink and Rose's approaches to analysing an item of qualitative visual data: the site for completing the task, the means of production for the drawing and who the woman imagined as the intended audience for her story.

I aimed to give women an alternative way of communicating or representing the spatial knowledge contained within their birth stories. Birth stories have been shown to convey the complexity of birth experiences and emotional meaning that women assign to these

⁴² This method was based on the principle that photography plays a key part in informing designers within the selected policy guidance documents.

⁴³ This pilot work was completed via social media.

experiences (Reed, Barnes and Rowe, 2016). The thesis methods centre upon women's birth stories as a readily-available data source that women are 'very willing' (Cheyne et al., 2013, p. 711) to share. Reed, Barnes & Rowe's study of women's birth stories found that 'women's experiences during physiological birth are multidimensional and not aligned with biomedical descriptions of physically defined stages of labour. Birth was an empowering and transformative experience' (2016, p.46). Rowe et al. propose that the use of birth stories for understanding birth 'may assist with developing a discourse about birth that resonates with women's experiences' (Ibid.).

I expected the 'lived visual data' (Emmison et al., 2012, p. 152) created by women to answer my space-based research objectives by describing '... motion, visibility and invisibility, and the patterning of zones, objects and activities ...' (Ibid.). The women's drawings served multiple functions for the thesis as is common in qualitative visual research (Rose, 2016): as a form of data, a form of note-taking for women, a form of illustration, a form of elicitation and a form of dissemination. An example of similar methods capturing spatial experience is Heath and Cleaver's (2004) research of household members in shared living arrangements.

The acts of drawing and conversation are viewed in the thesis as a collaborative process of sense-making between modes of communication and the researcher and participant; to make 'language sit in for life' (Jorgenson & Bochner, 2004). Tversky et al. (2013) note that sketches and stories are particularly useful for capturing embodied experiences: such as those that might be experienced during childbirth. A woman's experiences expressed in birth stories were expected to echo Tversky et al.'s interpretation of the value of sketches and stories for capturing the nature of life as:

[Life] just keeps happening: unbroken, continually, continuously, ubiquitously, and inexorably. Life happens in sight, in sound, in smell, and in touch: all at once and from all directions. Life is outside. It happens in space and time. It happens without narration and without explanation. (Tversky et al., 2013, p. 48)

Women's birth stories were expected to vary in length and the interview plan took into consideration how much time a new mother could dedicate to participating in an interview whilst caring for a child. Women started the drawing process with the room where the birth took place. This approach prioritised the birth as the experience common to all the women⁴⁴ and was utilised as a way of disrupting the more common flow of a birth story where key events are told according to time. When I piloted this interview method (Section 4.5.3), space took on a more important role in the ordering of experience and women discussed events according to the room they occupied.

⁴⁴ All the women had given birth so this was the experience that they all had in common.

Participants mostly chose to conduct the interview in their home with their baby present. Everyday life events disturbed some interviews, for example when a baby cried or there was a knock on the front door. The pen portraits record these situational details for each interview (*Figures 6.1 and 6.2 in Chapter 6*). This method allowed mothers with caring responsibilities for very young babies to take part in this research when interviews conducted in other venues may have prohibited their participation (Sinha & Back, 2014). Sinha and Back conclude that a qualitative interview conducted in the participants own space fosters 'sociable forms of dialogue' (2014, p. 473) and is preferable to a silent and private interview room. Conducting the interviews in a woman's home was a part of a methods approach that echoes the thesis methodological aim of producing ethical research that values women's life experiences and the social aspects of architecture.

4.6.2 Sampling and recruiting

Study location

The study took place across two cities in the north of England served by two NHS Trusts with a range of birth venues: three hospital labour wards, an alongside birth centre, active birth rooms as well as women's own homes. Around 16,000 births take place across the region of City A and City B region per year. I viewed this number of births as providing a high level of opportunity for recruiting research participants with experience of different birth venues as a purposive sample. Rates of births vary according to birth venue type (Dodwell & Gibson, 2012), for example, the local home birth rate is low between 1-2%. This did not impact on recruitment because the sampling sought a similar number of women for each available venue.

Identifying research participants: sampling

The thesis elicited data from a small-moderate sample size of twenty-four women. This number emerged from reviewing the recruitment strategies of other women-focused maternity research, and the requirements of the NHS research governance attached to this study. Early in the research design, I considered a national study, such as the birth environment survey completed by the NCT charity (Newburn & Singh, 2005) or the Women's Institute (Bourke, 2013). I concluded that this was not practical within the resources available to a PhD student. Visiting and recording every venue used by a participant would have been resource-intensive in the NHS requirement to gain explicit permission from every NHS Trust involved. It is likely that working towards permission from multiple sites would have prevented the study from taking place within the allocated time frame.

Women were recruited from one geographical area in order to facilitate the richness of data through women's experiences of similar rooms, often in the same venues as

each other. This location-based method for achieving a purposive homogeneous sample is recommended by a number of researchers (Quinn & Clare, 2008; Ritchie, Lewis, Nicholls, & Ormston, 2013; Roberts, 2013) for a small sample size, in order to realise themes from groups of people with similar experiences. NHS patient records and clinical details were not required for this study as I was not reviewing the birth outcomes per se, or making any clinical connection between the birth space and a woman.

The sample size may appear small for an architectural study aiming to consider the design implications of the findings. Architectural research often uses large samples in order to accurately predict the behaviour of a large group of people (Groat & Wang, 2013). Twenty-four participants is not unusual for a qualitative interview study in midwifery research (Roberts, 2013) especially for researching women's experiences of midwifery care (Hunter, 2009; Jomeen, 2007; Larkin et al., 2012; Maude & Foureur, 2007; VandeVusse, 1999). This data set size retains a focus on the experience of individual participants as well as being large enough to demonstrate patterns across a data set (Braun & Clarke, 2013). Larger data sets (20+ interviews) produce greater volumes of rich and detailed transcripts that can result in a researcher 'drowning in data' (Braun & Clarke, 2013, p. 45) rather than eliciting further themes.

Participants were interviewed when their baby was between three months and twelve months old. The interview with each woman lasted 1-2 hours. This is consistent with other maternity research (see Chapter 3) that gave women time to settle into life with a new baby and perhaps have time to reflect on the birth before participating in research on birth experiences. I offered to complete the interview over several visits if a woman preferred but this was not requested by any of the women. I had a valid DBS check for the interviews in case I was left alone with a participant's baby or older children at any point.

Inclusion criteria

A woman who had:

- experienced childbirth within the past 12-months (2014-2015).
- given birth in the City A or City B areas.
- English as a first language or was able to participate without using an interpreter or needing translation⁴⁵.

Exclusion criteria

A woman who:

- had a planned caesarean section.
- was below the age of 18 years old.
- lacked capacity to make her own decisions or was otherwise unable to give informed consent.

⁴⁵ Limited English language fluency was an exclusion criterion only because it was not possible to employ an interpreter within the financial constraints of the PhD. One of the Trusts was in a city where over 50% of mothers identify themselves as having English as a second language.

Approaching and recruiting the women

Figure 4.4 shows the strategy for approaching and recruiting potential participants. The Local Collaborators of the two NHS host sites requested that an NHS employee complete any initial approach on an NHS site. I planned my recruitment strategy to minimise additional work for midwives and Trust staff in facilitating the research. For example, at a parent education session, the parent education midwife talked for 1-2 minutes to introduce the study and gain verbal consent, before I talked to interested members of the group. I had permission to place posters in the public waiting areas of the maternity units. The publicity used (posters, postcards and images on social media posts) is in *Appendix C* [C.4].

Participants self-selected. After seeing the publicity or speaking to me, they made contact by email or text message. I noted only a participant's first name to reduce unnecessary storage of personal data. I sent out⁴⁶ the Information Sheet and Consent Form (examples are shown in *Appendix C* [C.5]) and made a follow-up contact to answer any questions the participant had about the research. All the participants were happy to participate after this initial contact and I arranged a suitable interview time and venue⁴⁷. Once the arrangements were agreed, I assigned a Participant Identification Code (PIC) to each woman. This became her name for the rest of the research on all subsequent paperwork.

NHS ethics

The study received a 'favourable ethical opinion' from The Proportionate Review Subcommittee of the NRES Committee South Central - Oxford C on 12 November 2014.

This ethics approval was granted by the National Research Ethics Service (NRES) that is now part of the NHS Health Research Authority. I also applied for, and received an NHS Research Passport for the two host sites. This was certainly my experience. The approval stipulated that I complete the NHS National Institute for Health Research e-learning course on informed consent; which I completed in October 2014.

No significant ethical issues were identified in relation to the study. I had a protocol in place for the unlikely event that a participant became upset during the interview. The Information Sheet gave contact details in case women wished to talk further about their maternity care with a professional caregiver. It also directed women to the NHS Patient Advice and Liaison Service (PALS) or the Supervisors of Midwives for the NHS Trust where they gave birth. No participants needed to use these services.

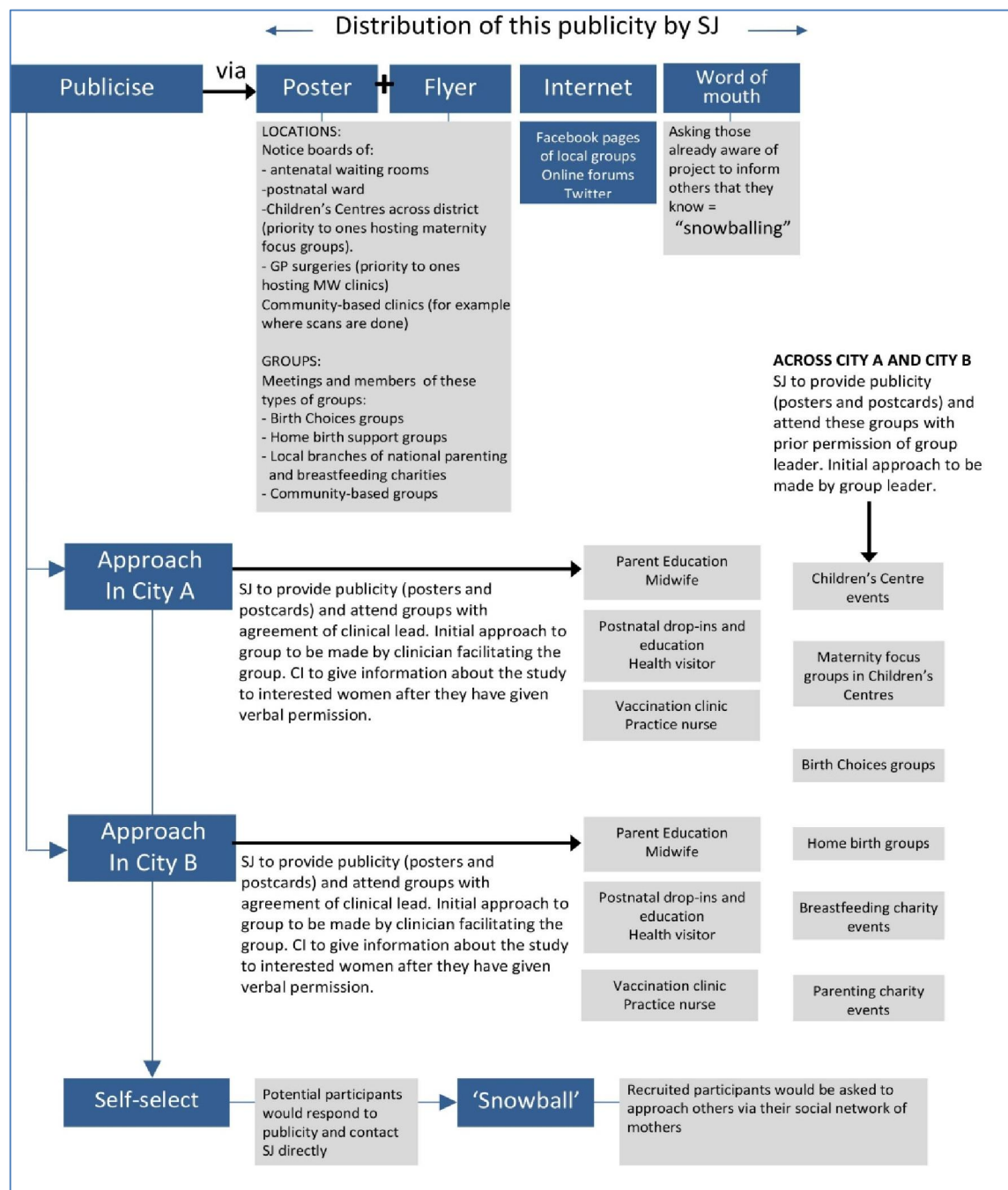
⁴⁶ Whether it was by telephone, email or letter depended on the preference of participant.

⁴⁷ I took the minimum personal data required to make the interview arrangements.

Data protection and record keeping

The study had a data protection and record keeping strategy as part of the NHS ethics approval. I created, and stored electronically, a contact and activity log for each participant (example log in *Appendix C* [C.4]) on a password-protected University of Sheffield server. Each participant was assigned a participant identification code (PIC) based on a flower name and in alphabetical order of when participants were recruited (there is no link to their real name). Electronic file names use the PIC name and all identifiable personal data was removed after the interview.

Figure 4.4 Recruitment and approach strategy (extract from my NHS Ethics Protocol)⁴⁸



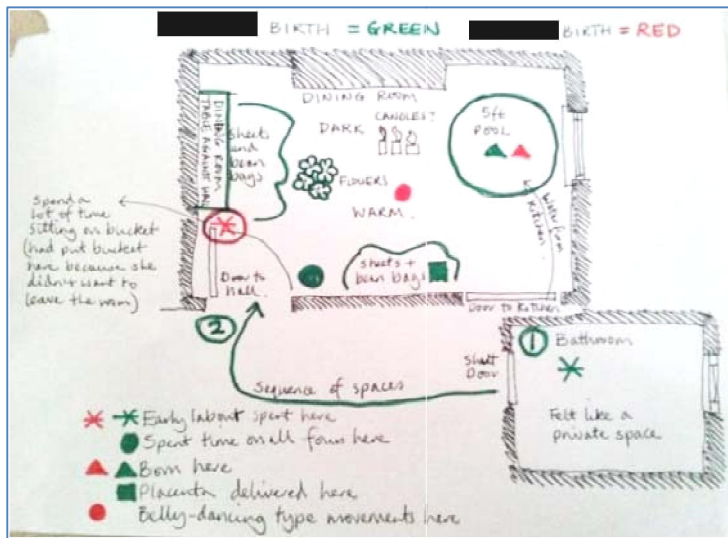
⁴⁸ SJ are my initials and CI stands for my research role as Chief Investigator for the study.

4.6.3 Interviews

First exploratory interview (researcher-generated qualitative visual method)

The first exploratory interview was a conversation with a woman who talked about how she used spaces during her two births. I sketched out the woman's experience from listening back to the interview voice recording (Figure 4.5). This method confirmed some of the epistemological problems with researcher-generated methods discussed in Section 3.7, since the drawing was my interpretation of her experience.

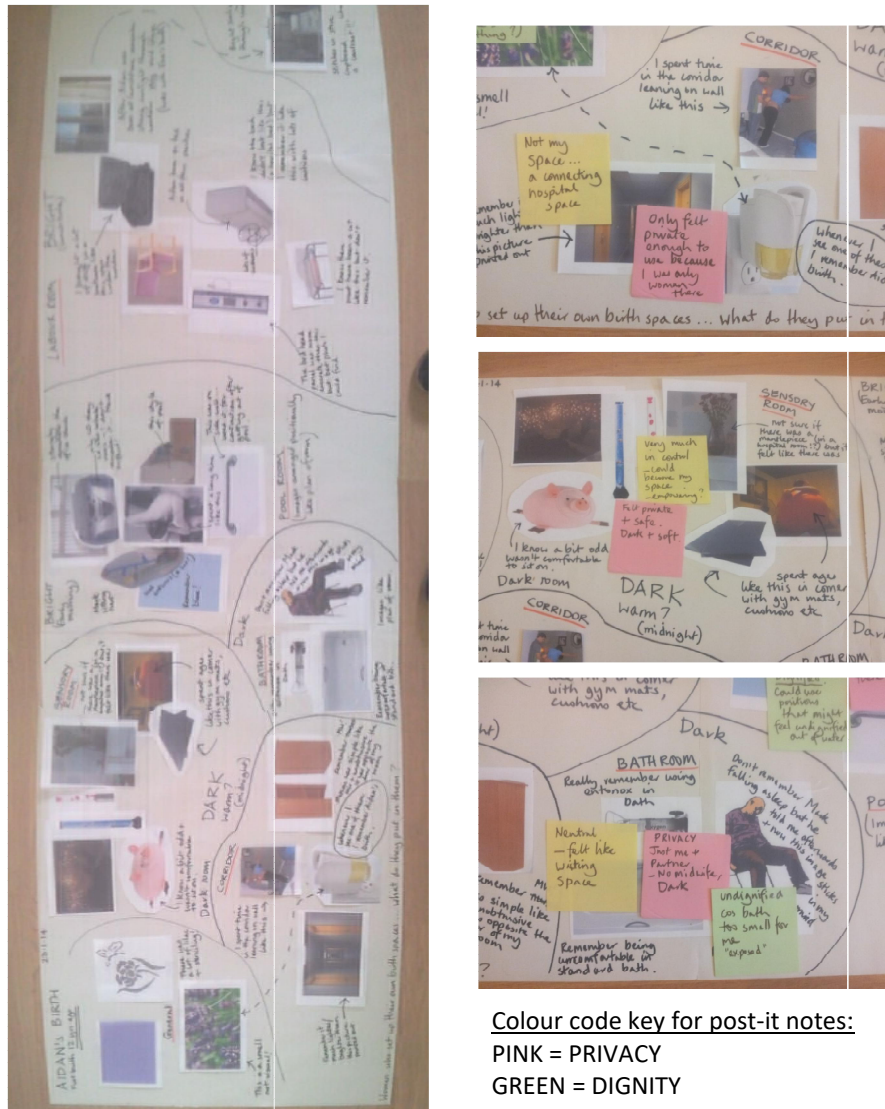
Figure 4.5 Sketch of room use for two home births for exploratory interview



Autobiographical exploration of potential qualitative visual methods

I piloted the qualitative visual methods by considering my own first experience of birth in a birth centre (2001). I worked in chronological order on a long roll of paper that facilitated a sequential approach to events. I anticipated that women would collage, with their own cut-out images, draw and make notes. In a second iteration of their work, they would add post-it notes for where they had felt a sense of homeliness, privacy, dignity or control. I found this method time-consuming because of the preparation required to create a collage. It was difficult to place post-it notes denoting abstract concepts (homeliness, privacy, control and dignity) on a collage representing a real experience (Figure 4.6 shows my work). I concluded this was an unnecessarily-complicated task, which would require a woman to spend several hours preparing for and assembling the piece. I then took steps to simplify the method to a simpler drawing task not requiring preparation.

Figure 4.6 The qualitative visual method explored using my first experience of birth



Colour code key for post-it notes:
 PINK = PRIVACY
 GREEN = DIGNITY
 YELLOW = CONTROL

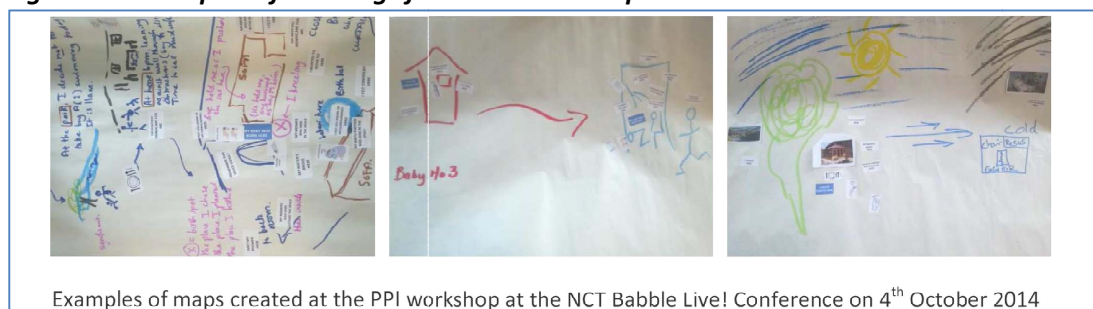
Qualitative visual method development at a PPI (Patient Public Involvement) workshop

In October 2014, I held a PPI workshop with six women at the NCT Babble Live! Conference. The simplified drawing method was a productive way of gathering the required data. Participants fed back that drawing a map of the birth experience helped to focus the discussion on the spatial qualities, more than other common aspects of a birth story such as medical interventions and conversations with attendants. Once they got going, the task made it easy to remember details. They piloted a variety of word and picture prompt stickers and found these aided them in remembering further details of their experiences.

Some of the women were grandmothers remembering a birth experience from thirty years ago; they could nevertheless remember spatial details. The women chatted to me and described their work as they drew (examples are shown in *Figure 4.7*). The women worked independently, all at the same time, and the layout of the room did not lend itself to recording their words. Thus, only drawn data was created and it was not possible to know a woman's

interpretation from looking at a drawing alone. I concluded that one-to-one interviews would be important, with a full transcription of the conversation that could sit alongside each drawing.

Figure 4.7 Examples of drawings from PPI Workshop



Examples of maps created at the PPI workshop at the NCT Babble Live! Conference on 4th October 2014

Pilot interviews

The interview method developed further in two pilot interviews. In these interviews, I tested-out starting the drawing process with the place of birth: women found they were able to draw from the starting point and also talk about the other spaces they might have used during labour. Other amendments to the drawing process arose from this pilot work with the aim of aiding a woman to feel confident with drawing as a task. I added giving participants ‘a reassuring invitation to draw’ (Theron et al., 2011, p. 23). The drawing materials offered (pens, pencils, stickers, sheets of paper) were simple and recognisable as those that might be available, say at a school or toddler group, rather than specialised architectural equipment.

I reflected upon which aspects of the research method design could be considered researcher-led. I removed questions that related to homeliness, privacy, dignity & control, since my review of literature had shown that these might be researcher-led ideas. I concluded it was better to see if these themes arose as significant within the women’s experiences.

I added some interview prompts. This was a researcher-led addition, but the intention was to increase the richness of the data by offering a number of ways that a woman could describe their space-based experiences. A woman was offered a selection of stickers – see Section 4.6.4 for a full description of these – when she was satisfied that her drawing was complete, or if she initiated a discussion of labour positions she used or emotions that she felt in relation to a space. Similarly, towards the end of the interview, I also shared photographs and building plans of the actual spaces. This elicited a rich discussion with women about differences they identified between what they had drawn and what they saw as significant in the photographs and architectural plans. Participants were also asked if they wanted to select and bring an image to the interview which they thought captured their memory of the space.⁴⁹

⁴⁹ This was optional but no participant did this. Some participants said that they would have liked to have done this

4.6.4 Interview plan and prompts

I planned an indicative semi-structure for the interview (presented in *Appendix C* [C7]) structured around drawing an experience of birth. I had a structure because, even for woman-led research, some facilitation by the researcher is likely and ‘no interview can truly be considered unstructured’ (DiCicco-Bloom & Crabtree, 2006, p. 40). The participant led the conversation and my questioning was guided by her interests or clarifying points she made.

The prompt stickers

Two A4 sheets of sticky labels were available for women to place on their drawings as they wished⁵⁰. They were also invited to create new stickers from blank ones if they wished -only one woman did this.

The *Picture stickers* (Figure 4.8) were cartoon-like images of possible labour positions and helpful activities: for example, eating, drinking, using the toilet, and massage. From my antenatal teaching experience, I noted that women are often unfamiliar with these as things to do during labour. The stickers used images from the RCM Campaign for normal birth webpage⁵¹, and NCT positions information. Labour is often conceptualised in its physiological “embodied” form in maternity literature. The stickers reflected these possible ways of experiencing birth spaces in order to aid women with representing their labour postures and use of equipment. This prompt also echoes the methodological principle that architecture can be understood through how animate bodies and corporeal processes take place within spaces (Rendell, 2012). Van Manen observes that embodied spatial experience can be articulated through drawing and modelling:

Not only do we understand things intellectually or conceptually, [but] also experience things in corporeal, relational, enactive, and situational modalities ... we know things through our bodies, through relations with others, and through interaction with the things of our world. (van Manen, 2016, p.xiv)

In addition, *Word stickers* (Figure 4.9) were offered that gave written statements on feelings, people and events of labour in relation to the space⁵². The chosen phrases were derived from considering social factors identified as important in the work of Fahy et al. (2008) as well as my attendance at antenatal course reunions as the teacher. In the PPI workshop pilot women fed back that emotions and social aspects of spaces are most easily described in words.

but were too busy with caring responsibilities to remember on the day. This would have been particularly helpful if they had prepared a birth space in their home which they have photographed. One participant offered to recreate the positions she used in the space instead.

⁵⁰ There were several copies of each sheet so that women could place the same sticker as many times as they wished.

⁵¹ <http://www.rcmnormalbirth.org.uk/birthing-positions-in-practice/visual-aids-for-birthing-positions/>

⁵² The sticker *My baby was born here* was highlighted with a blue background as the starting point for the drawing process and a significant birth event.

Figure 4.8 Picture prompt stickers

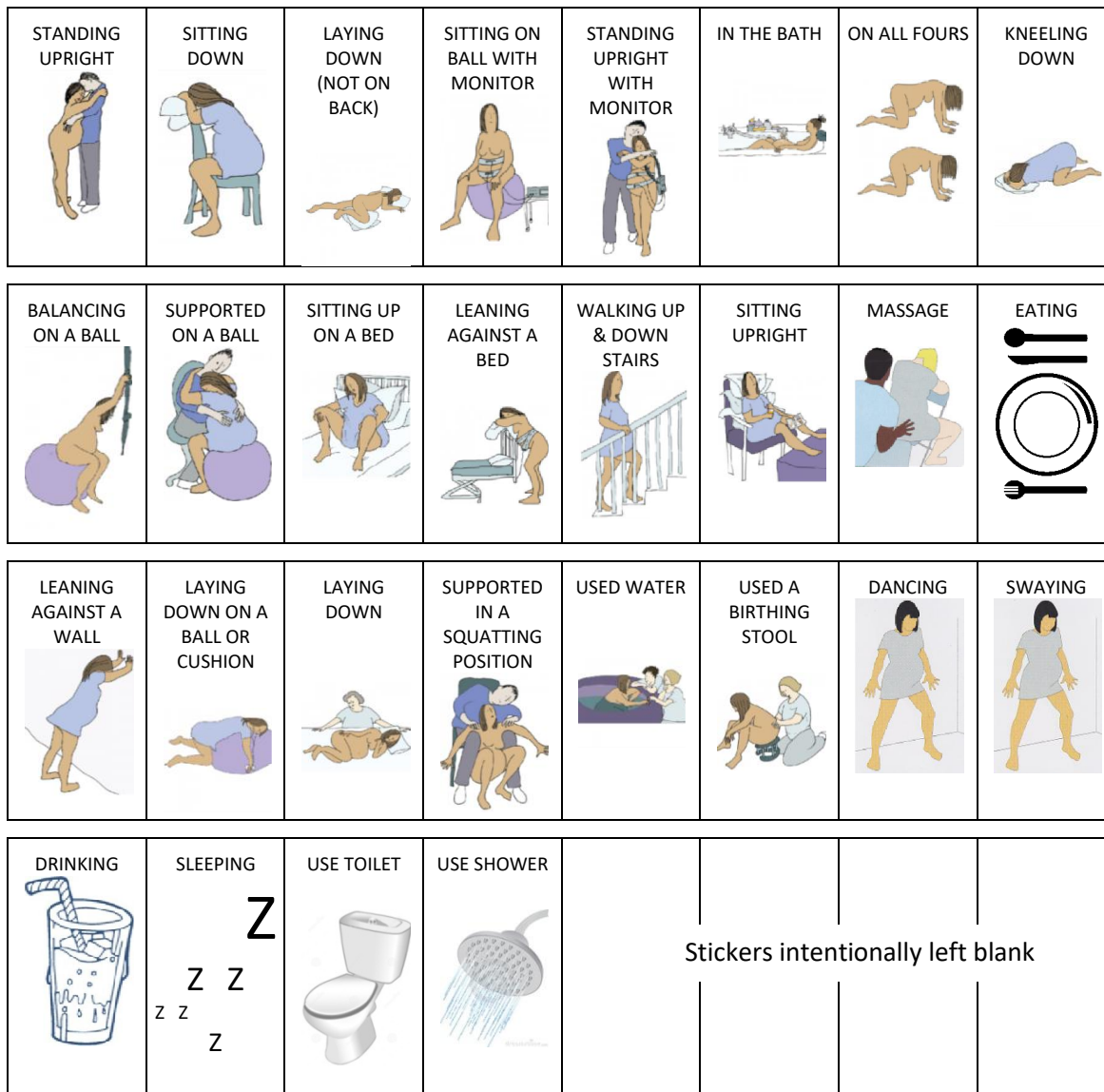


Figure 4.9 Word prompt stickers

My baby was born here	My waters broke here	This is where I felt the urge to push	This is where I met my midwife	I was prepared for surgery here
My partner was here with me in this space and that was good	My partner was here with me and that bothered me	My midwife was here with me in this space and that was good	My midwife was here with me and that bothered me	This space felt very private
My midwife was <u>not</u> in this space with me and that was good	My midwife was <u>not</u> here with me and that bothered me	My midwife was <u>not</u> in this space with me and that was good	My midwife was <u>not</u> here with me and that bothered me	This space felt very public
Being here made me feel confident	Being here made me feel anxious	Being here made me feel calm	Being here made me feel worried	Being here made me feel happy
I felt able to move freely here	I felt able to 'do my own thing' here	I remember this as an important place in my labour story	Being here made me feel comfortable	Being here made me feel safe
I wanted to move away from here but didn't feel able	I didn't feel able to move as I wanted to when I was here	I felt self-conscious being in labour here	I had a strong desire to be in this space	Being here made labour seem <u>less</u> painful
I have vivid memories of this space	I don't remember much about this space	I waited here and felt <u>un</u> comfortable	I waited here and felt comfortable	Being here made labour feel <u>more</u> painful
This was a large, open space & that was ok	This was a large, open space & I wanted somewhere smaller	This space felt cramped & that was ok	This space felt cramped & I wanted more space	I felt I was made to lie on a bed when I didn't want to
I wanted to walk around and it was <u>easy</u> to do here	I wanted to walk around and it was <u>difficult</u> to do here	I wanted to be low down (close to the floor) and it was <u>easy</u> to do here	I wanted to be low down (close to the floor) and it was <u>difficult</u> to do here	I wanted to lie on a bed

Photo album for hospital-based venues

At the end of an interview, each woman⁵³ commented on anything further she recalled from seeing simplified plans and a “photo album” of the relevant NHS site (*Figure 4.10*). The research design thinking behind the everyday photo album format was that it took away any sense that these photographs were specialist architectural artefacts.

Figure 4.10 *The photo albums and plan drawings shared with participants*



4.6.5 Thematic analysis

The drawn and written data were analysed thematically: starting with the open coding of transcripts, which was supported by examination of the drawings. NVivo10 software was used to support the coding process, followed by comparing and discussing codes with my supervisors to identify key emerging themes. Thematic analysis is used widely in qualitative research (Clarke & Braun, 2013) and in essence it is ‘a method for identifying and analysing patterns in qualitative data’ (Ibid., p. 1). Codes are a common strategy for this process of identifying patterns and breaking down qualitative data into themes (ibid.). The analysis used Saldana’s approach to coding (Saldana, 2012).

I responded to each woman’s data as a form of case study. The process took the format of close reading of the text, listening to voice recordings, looking at the drawings, becoming immersed in her experience; re-reading, re-listening, re-looking, crafting notes as text and diagrams and writing down interpretations as text and spatial thought diagrams (*Figures 4.11 and 4.12*). After familiarisation with the data from one woman, I completed a summary sheet of what I had learned from her (*Figure 4.12*). I noted when themes were common across the

⁵³ For women who had given birth in hospital.

women, as nodes in Nvivo and as notes in my research diary in an iterative and cyclical process⁵⁴. The data were interpreted as manifestations of a woman's space-based experiences and her internal experiences of birth spaces that only exist during childbirth.

The women's drawings were conceptualised similarly to Gesler's (1992) understanding of 'landscapes' as cultural geography. Each drawing was 'read for what it says about human ideas and activities' (Gesler, 1992, p.736); through a woman's representations of rooms, furniture and her companions and as a representation of 'human values and meanings as they are actually lived ... a social document, producing and sustaining social meaning' (Ibid.).

This analytical method aligned well with the methodology of the thesis and provided the flexibility needed to respond to unexpected aspects of the data; 'the enormity, contingency and fragility of signification ... to bring to light the meaning, richness and magnitude of the subjective experience of social life' (Attride-Stirling, 2001, p. 390). The analysis was an iterative process achieving 'a more abstract level of analysis' (Ibid.) with each iteration.

I found Braun and Clarke's explanation of thematic analysis helpful in developing my analytical practice (Braun & Clarke, 2013, 2014) and *Figure 4.11* summarises my adaptation of their six phase process. My diary entries aimed to explore the data spatially across the transcribed interviews and associated drawings. I wrote out all my raw thoughts on each highlighted passage and later interpreted them more fully, as Clarke suggests happens, in a 'form of conversation with myself' (2005, p. 202) about my data.

4.7 CHAPTER SUMMARY

The methodological discussion draws on the work of social and spatial theorists (Habermas, Soja, Foucault, and Bourdieu) and critical spatial practitioners (Rendell). The methodology is necessarily complex in order to best facilitate an 'attitude of openness' (Åge, 2011, p. 1600) to the spatial possibilities of women's experiences and reflects the merging of multiple forms of disciplinary knowledge. Emerging data is interpreted without the usual boundaries applied to labour and birth (medical stages) and healthcare architecture (evidence-based medical principles). Birth space understood through qualitative visual methods and grounded in women's experiences, is expected to differ from existing knowledge of the birth environment; providing rich "thick description" (Geertz, 1994) for interpretation.

⁵⁴ In a process similar to the work of others, for example: Attride-Stirling, 2001; Corbin, Strauss, & Strauss, 2014; Saldana, 2012.

Figure 4.11 Thematic analysis

Braun and Clarke's (2006) approach involves a (recursive) six-phase process:

- 1) Familiarising yourself with the data and identifying items of potential interest
- 2) Generating initial codes
- 3) Searching for themes
- 4) Reviewing potential themes
- 5) Defining and naming themes

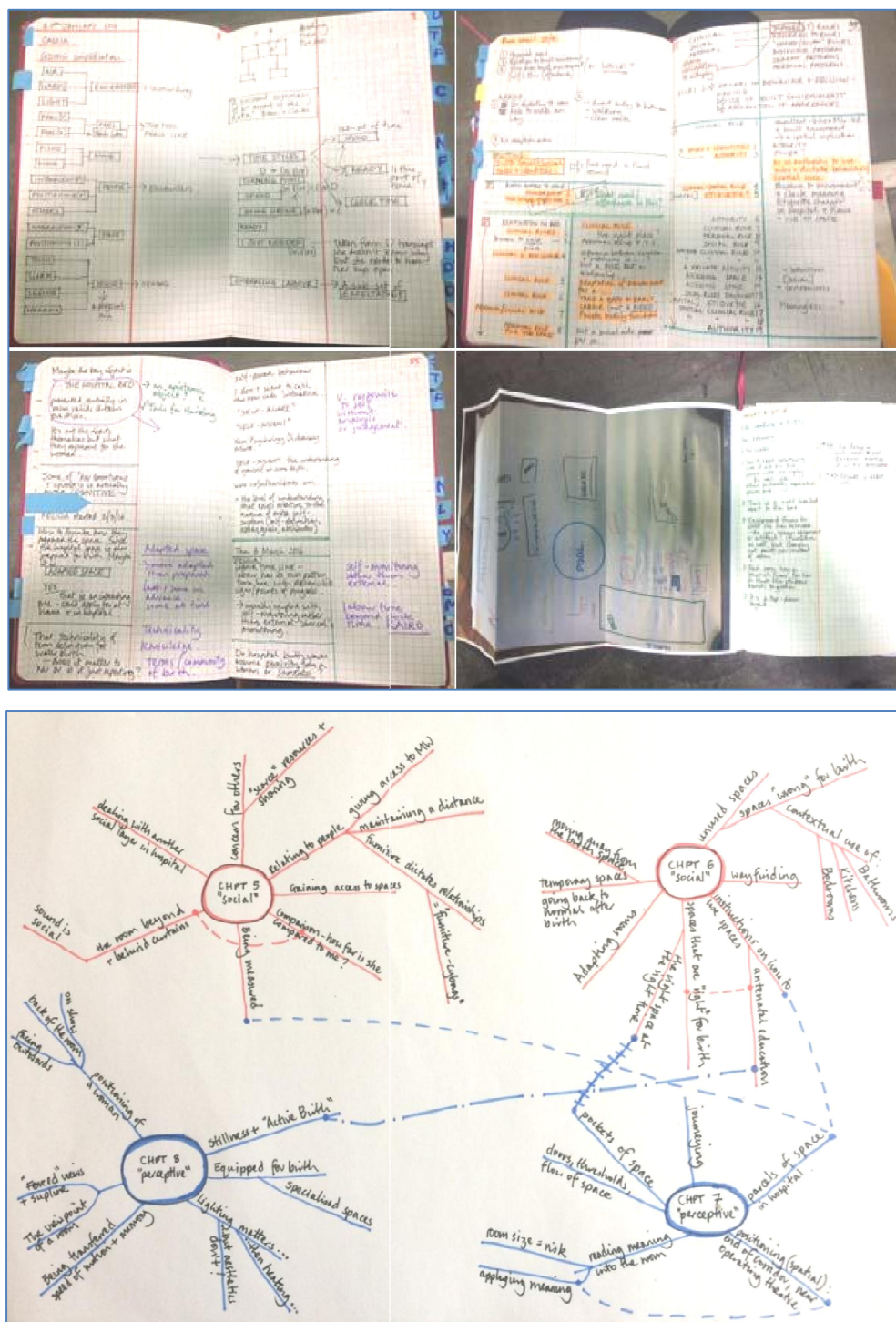
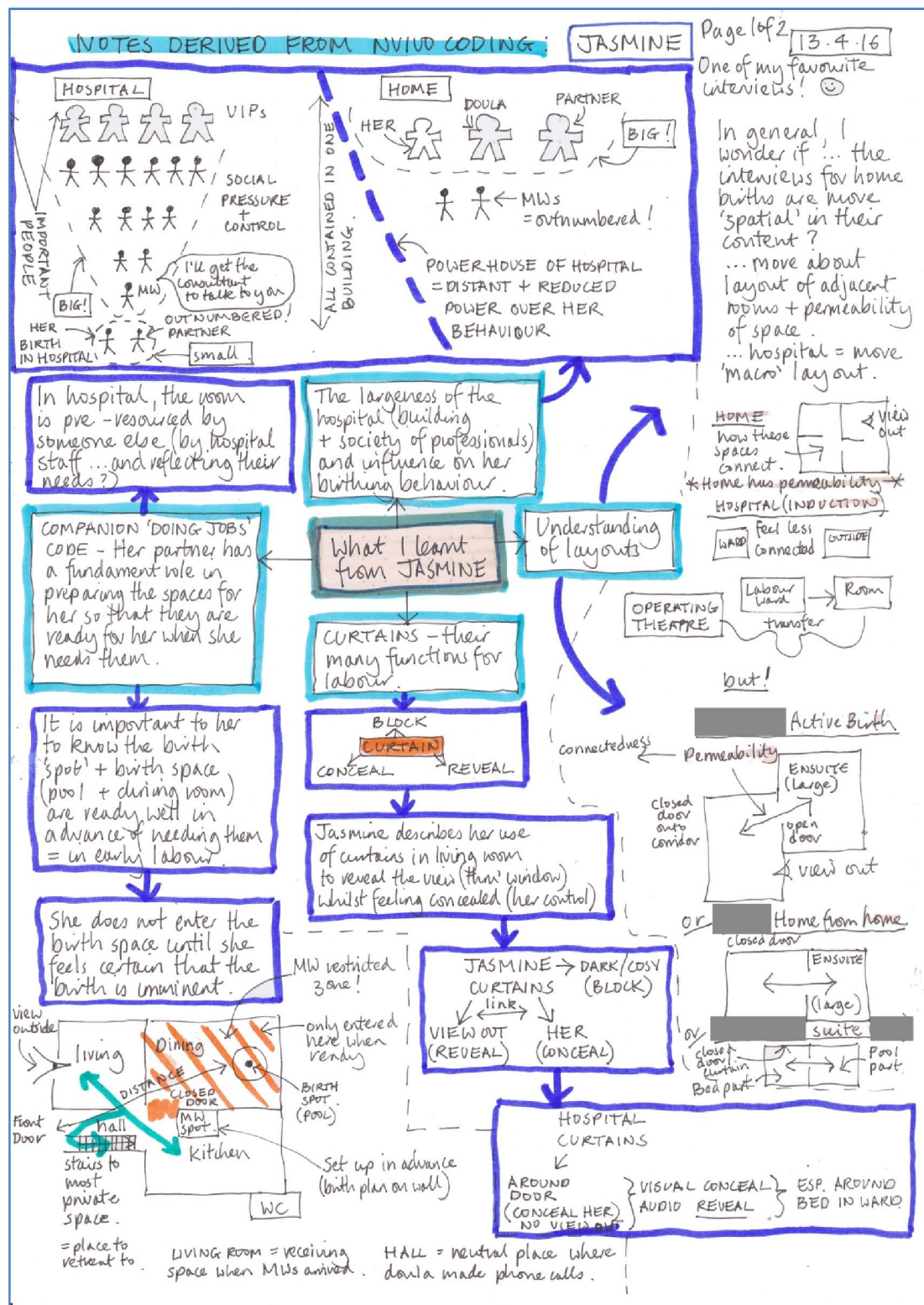


Figure 4.12 An example of one of the 'What I learnt from ...' analytical sheets



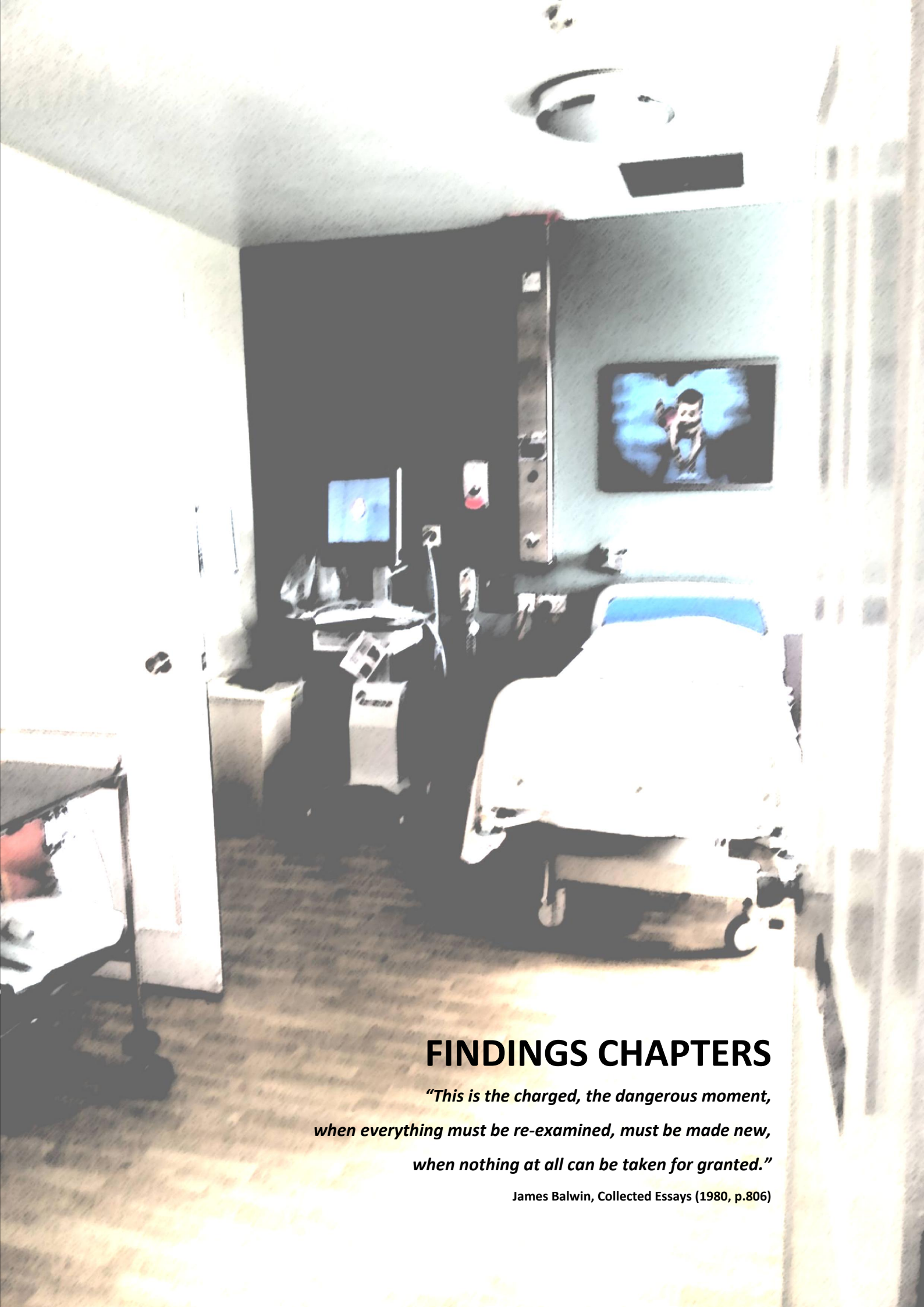
The developed methodology offers an architectural challenge to the current techno-rational production of birth spaces, by acknowledging there is a body of architectural theory for the social production of space. The significant contribution from medical anthropology and the social sciences for understanding childbirth as social and socially-situated also informs the methodological approach. Recent qualitative midwifery research into women's experiences has provided useful models for research methods⁵⁵.

In this thesis, I model a form of activist research through my methodology that stems from my positionality as someone steeped in the worlds of childbearing women and architecture. Thus, I interpret women's experience from 'an advantageous position' (Hale, 2008, p.21) because in my life experience I have developed 'a deep, multifaceted, and complex understanding of the topic under study' (Ibid.). Hale also notes that a researcher position of this type can achieve 'collaborative relations' for knowledge production with group members⁵⁶ with the potential to 'yield privileged insight, analysis, and theoretical innovation that otherwise would be impossible to achieve' (Hale, 2008, p.21). Petrescu and Trogal also argue for a 'right to architecture' (2017, p.3) in the Twenty-first Century, which stems from Lefebvre's notion of the 'right to the city' (1991) meaning that 'all citizens have the right to shape their societies in and through its spaces' (Petrescu & Trogal, 2017, p. 3). The thesis motivation for study emerged from my similar understanding to that of Petrescu and Trogal, that architecture exists for the people that use it, who also have a political right to shape their surroundings. My positionality aligns my work with that of architects investigating spatial practice (for example Jeremy Till and Jane Rendell) and is a significant departure from the existing thinking that informs evidence-based healthcare.

The end of this chapter marks the culmination of the development work on the context of policy, practice, literature and my initial *bios* reflective work. The situated methodology and the selection of qualitative visual methods have emerged from this context. I carry forward all the conceptual and methodological perspectives developed so far, into the findings chapters that follow. These chapters present the interpretative analysis of two sets of data: to acknowledge the existing separation between the production of birth spaces by designers (Chapter 5) and the consumption of birth space by women (Chapters 6-10). Under investigation are how the designers' and care givers spatial practices are revealed in policy guidance and childbearing women's spatial practices.

⁵⁵ For example: studies by Edwards, 2005; Jomeen, 2007; Maude & Foureur, 2007; Sjoblom et al., 2006.

⁵⁶ In my case the groups are three-fold: architects, health professionals and childbearing women.



FINDINGS CHAPTERS

*"This is the charged, the dangerous moment,
when everything must be re-examined, must be made new,
when nothing at all can be taken for granted."*

James Baldwin, Collected Essays (1980, p.806)

CHAPTER 5

POLICY DOCUMENT CRITIQUE

5.1 CHAPTER OUTLINE

This chapter discusses the findings that emerged from a critical analysis of three current documents of policy and guidance as the ‘semiotic materials’ (Ledin & Machin, 2018, p.5) within which the production of birth space is grounded (Section 4.3.2). The production and genre of each document is analysed for the meaning and intent transmitted (Section 5.2). Section 5.3 discusses emergent themes across the documents and their relevance to the production of space. Finally in Section 5.4, these findings are related to the wider policy and practice context reviewed in Chapters 2 and 3.

5.2 THE DOCUMENTS

5.2.1 Description of the documents

The documents inform producers of birth spaces in the following ways: *Better Births* primarily informs midwifery practice; *Health Building Note 09-02* primarily informs architects designing maternity facilities; and the *NCT Better Birth Environment Audit Toolkit* primarily informs the auditors of existing maternity facilities.

Better Births: Improving outcomes for maternity services in England (2016)

Better Births is the report of a 2015 National Maternity Review⁵⁷. It presents ‘a five-year forward view for maternity services in England’ (National Maternity Review, 2016, p. front cover).

Health Building Note 09-02: Maternity care facilities (2013)

Health Building Note 09-02 (HBN09-02) covers building design best practice for maternity care facilities within the NHS.

The NCT Better Birth Environment Audit Toolkit (2003)

The *NCT Better Birth Environment Audit Toolkit (NCT Toolkit)* developed from the NCT national survey of women’s views on the birth environment (Newburn & Singh, 2003b). It is

⁵⁷ This was chaired by Baroness Cumberledge who also chaired the *Changing Childbirth* committee in 1993.

a resource for auditing the birth environment of maternity facilities and researching women's experiences of maternity facilities, in order to improve the experience of women and their families.

5.2.2 Production and genre of the documents

Seven criteria were applied to each document⁵⁸. The criteria aid the examination of each document as 'semiotic material' (Ledin & Machin, 2018, p.5). In the analysis, I applied Flyvbjerg's (2001) proposition that the phronetics of language reveal the values, judgements, interests and powers at play. The analysis also considered the work of Foucault on language use (1972) and Van Leeuwen's understanding of 'new writing' (2008) which integrates the meaning found within combinations of visuals, graphics and text. The seven criteria used were:

- A) The intended aim of the document:** the authors' stated aim in publishing the document.
- B) The intended audience:** for the stated aim of the document.
- C) Evidence-base for recommendations made in the document:** critiqued the cited evidence on which the document based its recommendations.
- D) Document cover:** the document cover was reviewed as a 'cataphoric reference' (Held, 2005, p. 1) to the core message of the document.⁵⁹
- E) Order of contents:** evaluated the sequence in which content is presented as a reflection of intended meaning.
- F) The canvas of the document:** examined how the document medium presented its form to the audience (Bateman, 2008). For example, the document might be a quick reference tool or an in-depth analytical report.
- G) Mode of presentation of ideas:** examined how different modes were used in the document to support the stated aims. This was based on Jewitt and Kress' (2003) understanding of multimodal literacy.

5.2.3 Better Births: Improving outcomes for maternity services in England (2016)

A) The intended aim of the document: is to make the case for change in the provision of maternity services in light of recent 'high profile failings in care' (National Maternity Review, 2016, p. 15) and re-assert woman-centred, personalised care as an achievable goal from previous policy.

⁵⁸ Criteria derived from the document production and genre research, as noted in Section 4.5.3.

⁵⁹ This is not common practice in document genre studies and is more frequently applied in the analysis of magazines and the home pages of websites.

B) The intended audience: is all maternity services stakeholders. Women and their families are prioritised in an opening letter written in informal language. The intended audience shifts as the report progresses: the text moves from reporting the authors' vision for an improved woman-centred service, to statistical reporting of the review findings. The final section is an action plan for auditing the outcomes of the report's vision; this is intended for an audience of senior management level personnel within maternity service provision.

C) Evidence-base for recommendations made in the document: The recommendations made by the policy concern the provision of 'safe and efficient models of maternity services'. These are based on an extensive review of the English provision of maternity care, international peer-reviewed publications and engagement events with 'the public, users of services, staff and other stakeholders' (National Maternity Review, 2016, p. 15).

D) Document cover: the cover photograph shows a piece of written collaborative work from one of the 'engagement events' of the national review of maternity care. Its inclusion on the cover implies the significance placed by the authors on this series of drop in sessions, visits to different services and 'listening events' (National Maternity Review, 2016, p. 17). Previous maternity policy documents featured images of a midwife caring for a woman and her family in a hospital setting (*Changing Childbirth*, 1993; *Maternity Matters*, 2007; and *Midwifery 2020*, 2010). Thus, in the choice of image, the authors have shifted the emphasis of previous policy on promoting midwifery care, to the collaborative working of this new policy:

All staff to be supported to deliver care which is women centred, working in high performing teams, in organisations which are well led and in cultures which promote innovation, continuous learning, and break down organisational and professional boundaries. (National Maternity Review, 2016, p. 8)

The chosen words for the document title: 'better', 'improving' and 'forward view' imply a critique of current maternity services and reflect that the policy presents 'the case for change' (Ibid., p. 19) within maternity services in England.

Figure 5.1 Better Births: document cover



E) Order of contents: The order can be interpreted as prioritising woman and families in the planned programme of change to services. The entire report is prefaced with a 3-page ‘open letter to the women of England and their families’ (National Maternity Review, 2016, p. 2). This is directly followed by the review team’s description of ‘our vision’ with the following key points emphasised in graphics that “pop out” of the text: personalised care, continuity of carer, safer care, better postnatal and perinatal mental health, multi-professional working, working across boundaries and a payment system as the key messages of the vision. The warrant and review design for the national review follows. The findings are reported in an order that prioritises women’s experiences and then leads onto the experience of those working within maternity care. The report ends with a schedule for senior management to audit the implementation of the report’s recommendations.

F) The canvas of the document: is an easily-replicable and accessible online document in the common and simple format of a stapled report (124-pages long) or as a downloadable pdf document.

G) Mode of presentation of ideas: the mode of presentation is similar to that of the *MIDIRS Informed Choice* information sheets and *Intrapartum Care Guidance* on the NICE website that present information in multiple formats according to whether the readers are women (patients) or professionals. The document employs a simple graphic presentation of ideas through the combination of “pop out” text boxes and infographic style images in the early pages, as if for a lay audience (*Figure 5.4*). Later pages, intended for an audience of professional stakeholders, employ tabulated statistical analysis and case study examples, interspersed with a denser text-based layout.

5.2.4 Health Building Note 09-02: Maternity care facilities (2013)

A) The intended aim of the document: is stated as;

Health Building Notes give ‘best practice’ guidance on the design and planning of new healthcare buildings and on the adaptation/extension of existing facilities. (Department of Health, 2013a, p. iii)

B) The intended audience: is implied as a “design team”⁶⁰ since the document provides ‘information to support the briefing and design processes for individual projects in the NHS building programme’ (Department of Health, 2013a, p. iii). It is not stated that women users are expected to access the information in this document; in contrast to *Better Births* and the *NCT Tool*. The document is divided into information on various design considerations such as location of services and layouts of rooms (with an implied audience of clinicians and

⁶⁰ A building project design team usually consists of architects, engineers, and client commissioners.

architects); information on 'specific engineering consideration' (Department of Health, 2013a, p. iii) (implying mechanical and electrical engineers and other building specialists); and cost considerations (implying all of the above as an audience).

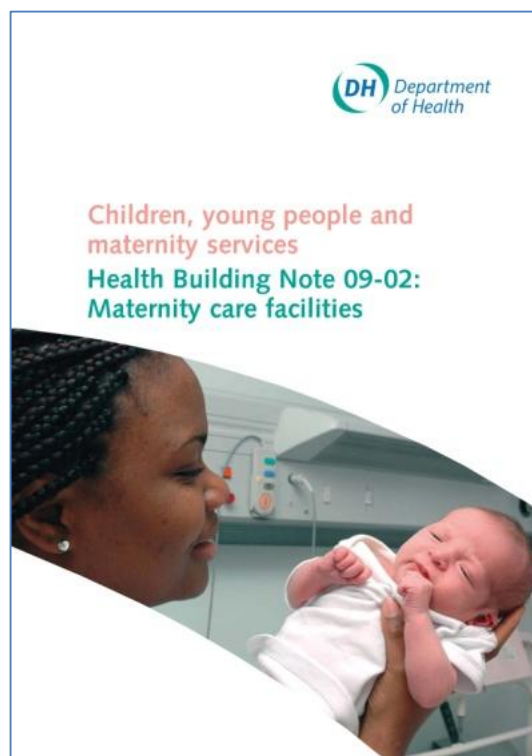
C) Evidence-base for recommendations made in the document: The authors present the documents authority through referencing similar NHS building standards documents (*Health Technical Memoranda*) and other *Health Building Notes*. There is little evidence that peer-reviewed research has informed the claims made in the document. The short list of sources primarily relates to obstetric, neo-natal intensive care and high-dependency requirements. The authors do not evidence the spatial layouts (how the dimensions were calculated) or the criteria for selecting photographs.

D) Document cover: This can be interpreted as focusing on the care of babies rather than on women's care. The title places maternity services within a children's care group. The cover photograph depicts a woman, who is likely to be a health professional, gazing at a baby in a technical, and implied medical, setting; the baby's mother is absent from this care. This photograph connects to the core function of the document, which is to provide: 'the policy and service context, and planning and design considerations for maternity care facilities' (Department of Health, 2013a, p. v), through its depiction of maternity facilities inhabited by health

professional. Thus, the cover implies that design considerations should focus on the needs of the professional. Compared to the cover text of *Better Births* and *NCT Tool*, the document title does not imply any value judgements on the current conditions of maternity facilities or imply a need for improvement.

E) Order of contents: the guidance document begins by positioning this document within the context of other NHS technical guidance for buildings (*Health technical memoranda* and *Activity DataBase* software). A short 'Policy Context' section follows, which expresses the importance of families within maternity care, and women's experiences of childbirth. The

Figure 5.2 HBN09-02: document cover



'Service context' section is significantly longer and explains maternity services in a series of flow diagrams with accompanying text. Diagrammatic layouts and photographs follow which describe design strategies starting with the large scale of a whole building and ending with the small scale of birth rooms. Thus, implying the operational context is prioritised over the experiences of a woman in a birth room. Personalisation of spaces is not an aim of the guidance which promotes the standardisation of space based on economic and efficient design in a series of standard 'Schedules of accommodation', 'cost information' and 'engineering space allowances'.

F) The canvas of the document: is an easily-replicable and accessible online document in the common and simple format of a stapled (82-pages long) guidance document and as a downloadable pdf document.

G) Mode of presentation of ideas: It is laid-out as a technical reference document primarily for architects and engineers. Evidence for this is demonstrated in the number reference system which identifies each paragraph for ease of reference. The photographs show that rooms can be set up as suitable for either a 'high risk' or 'low risk' birth, depending on the type of equipment provided. Binary division of spaces continue in the description of consultant-led or midwife-led units through the use of 'functional relationships' in flow diagrams. Human figures are absent from all photographs or drawings of spaces with the exception of staff positions shown in the plans which depict emergency situations. This focus on staff highlights the prioritisation of their needs within the document.

5.2.5 The NCT Better Birth Environment Audit Toolkit (2003)

A) The intended aim of the document: the stated intention of the document is to encourage designers, commissioners and users to work collaboratively, in order to:

Increase opportunities for women to have a straightforward vaginal birth. One way of promoting straightforward births is to ensure that women have the kind of surroundings and facilities they need to cope well with labour. We hope that we can work together to achieve this objective. (Newburn & Singh, 2003a, p. contents)

It provides guidance for designers of new or refurbished maternity facilities, offers recommendations on low cost improvements to existing facilities and presents birth-environment standards for those involved in commissioning maternity services (Newburn & Singh, 2003a).

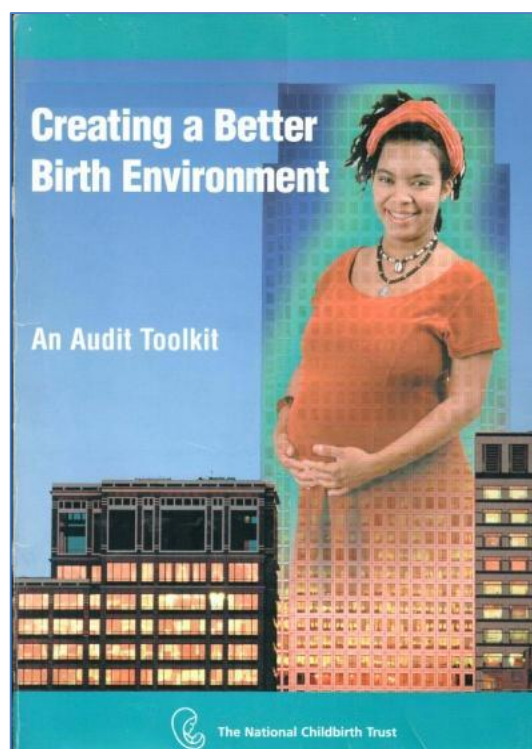
B) The intended audience: is stated as an ordered list: architects and designers; senior midwives and obstetricians, maternity facility managers; commissioners; maternity service user representatives; and anyone who is interested in auditing maternity facilities.

C) Evidence-base for recommendations made in the document: the audit tool arose from

the findings from the NCT national survey of women's views of the birth environment (Newburn & Singh, 2003b). This is a research study cited in other peer-reviewed publications⁶¹.

D) Document cover: This is a visual representation of the document's focus on women's views as a source of knowledge that can be applied to the improvement of birth environments. The image is a large part of the cover and features a pregnant woman smiling and making eye contact with the viewer. She is superimposed onto a background of modernist buildings. These buildings imply healthcare settings since they do not have a domestic scale. No image relating to a health professional is included, again emphasising the focus on women. Similarly to *Better Births*, the document title communicates a need for

Figure 5.3 NCT Tool: document cover



improvement – ‘better’ - in this case, in relation to the birth environment. The title also uses the word ‘creating’ which implies this improvement will be through changing the production of birth spaces in creative ways.

E) Order of contents: This is not fixed, since the toolkit is a series of loose sheets in a folder. The ‘Contents and guidelines’ sheet explains the intended audience and aims of the toolkit and then lists the folder contents in the following order: the single A4 sheet ‘Audit checklist’, questionnaires provided for maternity service providers to conduct similar surveys to the 2003 NCT survey of women's views, and finally, the 44-page stapled report of 2003 NCT survey of women's views (Newburn & Singh, 2003b).

F) The canvas of the document: The authors intended the audit checklist to be a practical tool for auditing rooms in a maternity building. The publication can be purchased in a card folder (2 loose sheets and 44-page stapled report) and is also available online as downloadable pdf documents. The audit checklist can be photocopied (see *Appendix A* [A3])

⁶¹ For example: Foureur, Epi, et al. (2010); Hodnett et al. (2009); Mondy, Fenwick, Leap, & Foureur (2016); Rudman, El-Khoury, & Waldenström (2007).

for an example sheet).

G) Mode of presentation of ideas: The simple layout primarily uses text and tables with a section containing photographs of women using labour positions and equipment in various settings. The audit checklist is a simple table, which can be filled out by hand. All the documents use the NCT's brand colours for that time. The text is written in a conversational and supportive tone, for example: 'do not hesitate to contact us if you would like help adapting the questionnaire or other advice about auditing your local facilities' (Newburn & Singh, 2003a, p. contents).

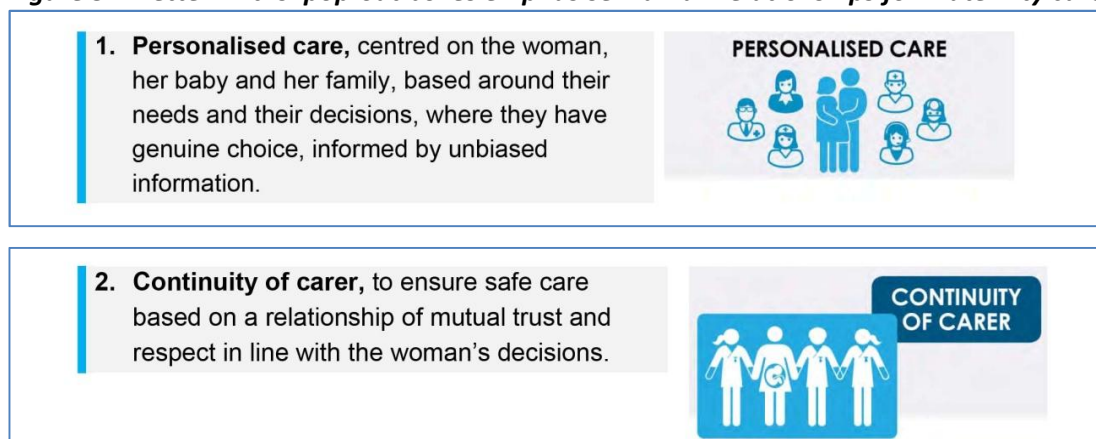
5.3 CORE THEMES ACROSS THE DOCUMENTS

5.3.1 Representation of woman-centred care

Better Births discusses the provision of woman-centred and personalised care within a larger maternity service, *HBN09-02* describes woman-centred care goals in terms of comfort, physiological birth and providing for a family-based experience, the *NCT Tool* presents woman-centred goals in terms of campaigning and auditing for improvement to birth environments. There is no evidence that this distinction between the documents is deliberate. They were published at different times and thus, likely to reflect changes in how woman-centred care is understood and how it has been established in maternity care practices. These documents are currently used in combination. Thus, the application of the rhetoric of woman-centred care in the production of birth spaces will be incoherent, unless practitioners are aware of differences across the documents.

Better Births examines the quality and structure of maternity services needed in order to honour the goals of woman-centred care, which it re-defines in terms of 'personalised care' (2016). The document's vision section text presents woman-centred care in terms of a woman's experience of relationships with her supporters and health professionals. The importance of human relationships is repeated in the enlarged text and drawings of people in the 'pop out' boxes on certain pages. *Figure 5.4* represents personalised care and continuity of carer, and these images show a woman and her baby surrounded by a supportive team including a partner. The text of the policy vision starts with personalised care and this is interpreted as prioritising this aspect. *Better births* presents continuity of carer, safer care, better postnatal and perinatal mental health, a fair payment system and multi-professional working in individual pop out boxes with large text suggesting equal status to all these facets of care including the new emphasis on maternal mental health and interdisciplinary working.

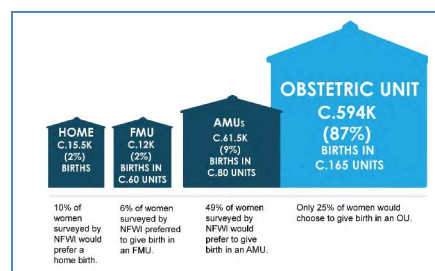
Figure 5.4 Better Births: pop-out boxes emphasise human relationships for maternity care



Women as the main focus for the document (see Section 5.2.3 B) is prioritised in the content order of the document and in starting the whole report with an image of a letter addressed to all women. Throughout the document, *Better Births* describes its relationship with women as a 'listening' stance: 'we heard that services should be designed in a way which put women, their babies and their families at the centre' (2016, p. 33). Compassionate and inclusive language is used: 'Every woman, every pregnancy, every baby and every family is different' and presents the aspiration that care will be 'more personalised, kinder, professional and more family friendly' and 'centred around their individual needs and circumstances' (Ibid., p. 8). The report recognises that the provision of mental health care for women is 'not good enough' (Ibid., p. 41) and makes a commitment to focus on this area of women's experiences.

Better Births reports whether on place of birth according to whether women were able to give birth in the birth venue of their choice (Figure 5.6). This contrasts with the morbidity and mortality rates reported for birth venues in previous reports⁶². The image that presents the research statistics portrays home, FMU and AMU as the same colour and similar sizes. The obstetric unit is identified by its increased size and distinct colour. Even though four venues are presented, visually there appear to be only two categories. This is interpreted as a binary schema in the authors' perception of birth venues; as divided into either obstetric or midwifery care. Choice of birth venue is also emphasised as important to women in the written text of the

Figure 5.6 Woman-focus in the reporting of place of birth

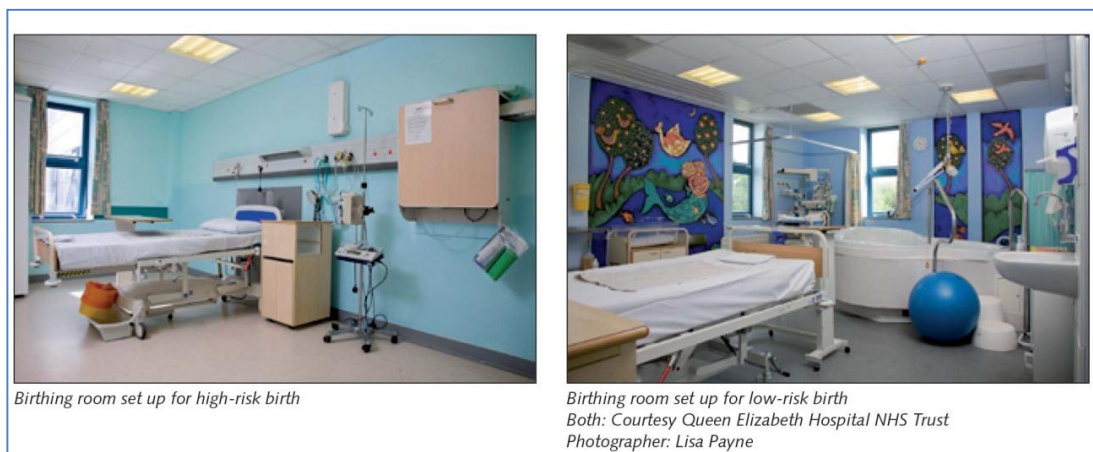


⁶² For example: Ministry of Health, 1959; Social Services Committee, 1980.

NCT Tool.

HBN09-02 has four short paragraphs on woman-centred care that conclude with the design advice that the “‘normality’ of the experience is a key driver but appropriate facilities are needed when complications occur” (2013a, p. 1). Thus, this is interpreted as a focus within design on managing staff processes within the delivery of maternity services, especially for the efficient functioning of rooms during emergency situations. Woman-centred care is not prioritised through the choice of images or adaptations of the text: for example, there are no pop-out text boxes similar to that of *Better Births*. Photographs of birth rooms are taken with a wide-angle lens positioned to show as much of the equipment as possible (*Figure 5.5*). Thus, the viewer is distant, and since no people are shown, the photographs do not give a sense of what it is like for a woman to experience labour in the room.

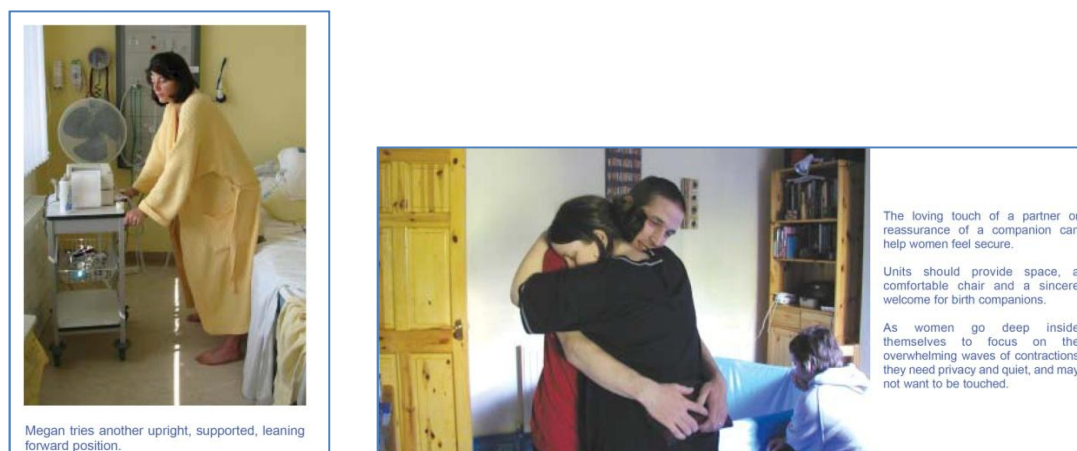
Figure 5.5 *HBN09-02*: rooms presented in terms of risk and equipment.



The *NCT Tool* uses rhetoric which aligns it with woman-centred care as a socio-political and campaigning position undertaken by women and sympathetic care providers. The document has two foci for women: on women’s autonomous use of birth rooms during labour; and on women as activists initiating change to the environment of their local maternity facilities. The birth environment is presented as a site where women should have control over environmental factors - heating, lighting etc., and over the type of furniture provided. The photographs of women using birth rooms place the labouring woman at the centre of the image and the viewer is “with her” in close proximity. There is a ‘demand’ (Kress & van Leeuwen, 2006) for the viewer to share in the emotion of a woman and her partner sharing an intimate moment (*Figure 5.6*). The personal nature of these women’s experiences is highlighted by sharing their names in the descriptive text accompanying the photographs. Women’s experiences of labouring at home are normalised through the range

of birth venues depicted in this section of the report.

Figure 5.6 NCT Tool: photographs focus on women's use of rooms and furniture.



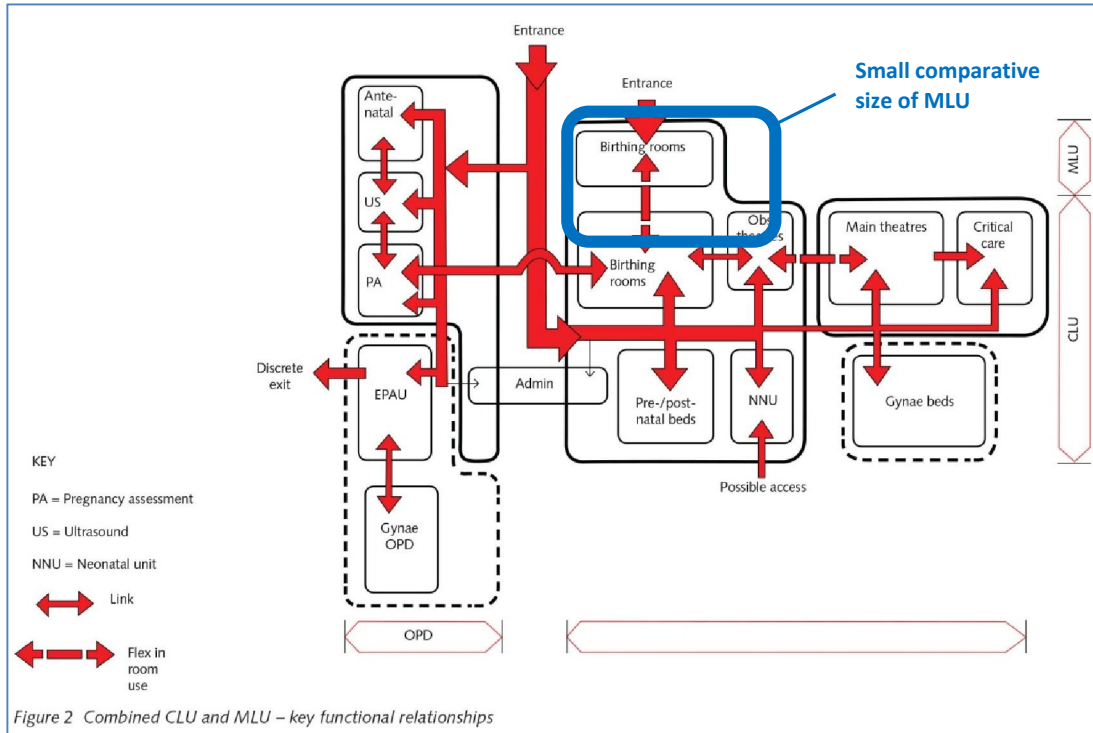
HBN09-02 recommends that designers divide space according to the work patterns of obstetricians and midwives and this practice can be interpreted as prioritising the spatial practices of health professionals. Flow diagrams demonstrate this prioritisation across the whole building for maternity facilities (Figure 5.7). The red arrows show the path of women flowing between spaces defined by different staff specialisms. Figure 5.8 shows a typical care pathway with midwife care shown in purple, and arrows showing how women might flow between midwifery and obstetric care. Flow diagrams are a technical tool to understand space in a schematic and functional way at the level of a whole building. I interpret this choice of presentation of how a maternity unit works as de-valuing the personal journeys of women who receive care in such buildings.

In Figure 5.8, obstetric care appears visually to be supporting the more dominant midwifery care pathway; more dominant since reading conventions prioritise the top of the page. However, when these principles are used to inform the recommended spatial layouts of actual buildings (Figure 5.7), *spatially*, midwife-led care is subordinate to consultant-led care. The MLU (blue outline added to original image) represents a small element in the spatial layout.

Figure 5.7 HBN09-02: professional boundaries translated into spatial layouts

Top: a combined MLU and CLU

(EPAU is Early Pregnancy Assessment Unit, OPD is Out Patient Department)



Below: A CLU with separate MLU (or 'birth centre')

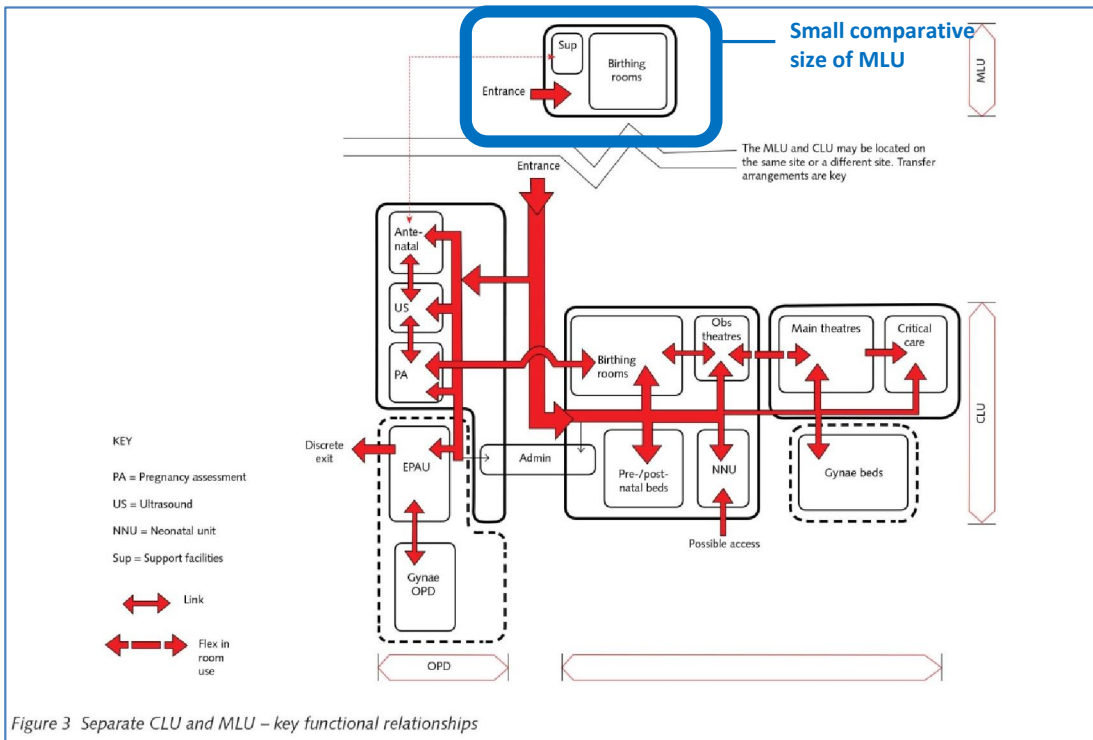
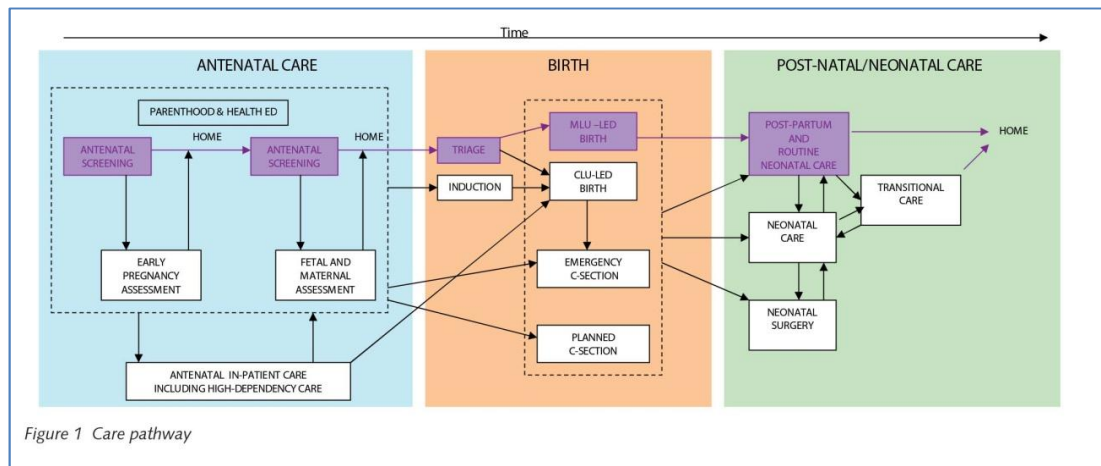


Figure 5.8 HBN09-02: professional boundaries in care pathway

(Midwife-led care shown in purple and consultant-led care in white)



HBN09-02 provides recommended spatial layouts in plan form. The plan is a familiar visual layout for architects who are able to interpret shapes to mean furniture, doors and walls (Tversky & Suwa, 2009). As a “bird’s eye view” they also distance the observer from the people and events of the room. Only members of staff appear in the plan drawings (Figure 5.9). Text labels on the plans only describe staff positions and equipment. I interpret this as encouraging designers to focus on staff needs over women’s needs. The midwife is drawn working at the lower end of the bed implying that a woman is on the bed. The chair (probably intended for a supporter) is positioned “out of the way” of the staff working area. These drawn positions suggest that a woman and her companions are not prioritised in the production of these rooms.

Figure 5.9 HBN09-02: plans showing staff but no women or companions

5.3.2 Risk and Safety

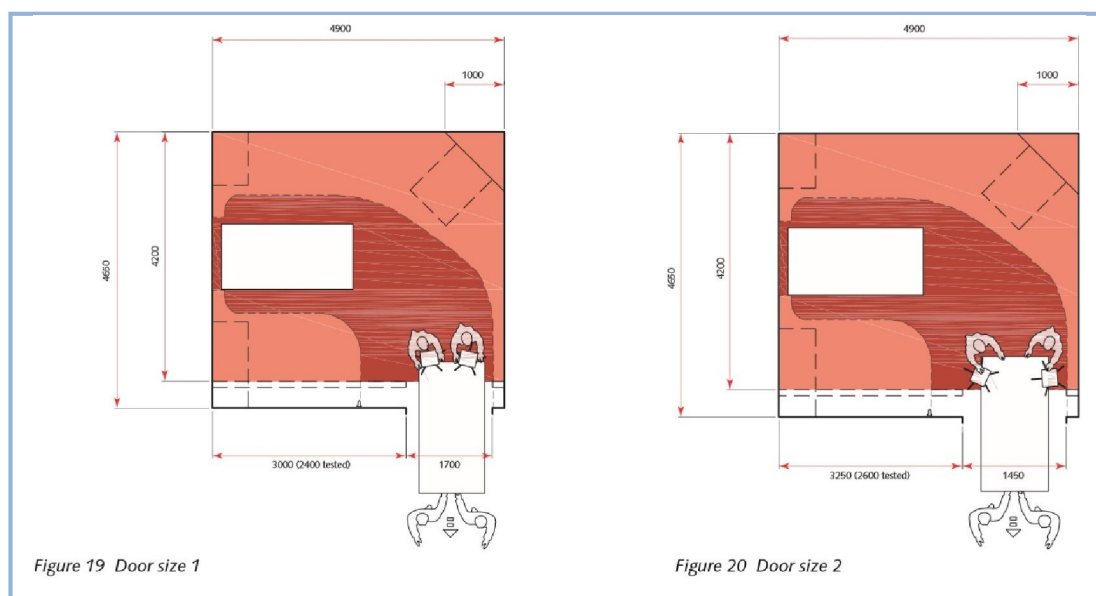
HBN09-02 presents two types of birth rooms that are categorised according to the risk level of the expected birth. The labels on photographs (Figure 5.5) give each room either a high- or low-risk identification in a binary schema. The photographs imply that all birth rooms will

be equipment-based in their production, with the application of a different set of equipment for different risk categories. This visualisation contradicts the document's text on woman-centred care that says:

In all units, rooms should be designed to give women choice and control over their labour and birth, to normalise the process and welcome family participation. The social needs of higher-risk groups should not be overlooked. (2013a, p. 1)

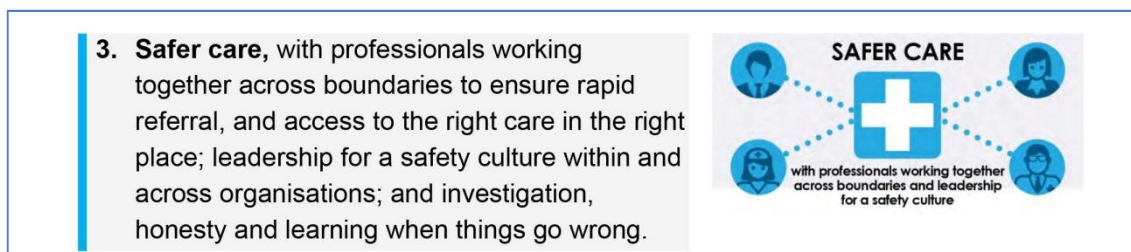
Other layouts within the document define minimum door widths and equipment positions to facilitate the work of staff in an emergency situation (*Figure 5.10*). This is design as a tool to minimise risk factors a space through the layout and selection of equipment.

Figure 5.11 HBN09-02: recommended room sizes and door widths dimensioned in relation to staff moving equipment and a bed in an emergency.



HBN09-02 and *Better Births* provide contrary messages about the use of risk categorisation. *Better Births* states that: 'the categorisation of women as high, medium or low risk was inappropriate and acted against personalisation of care' (2016, p. 41). *Better Births*, instead, presents safety in a pop-out box as a commitment to work across professional boundaries and create an organisational culture of safety (*Figure 5.11*). Safer care is personalised through the use of people's faces connected to a cross as a symbol of safety. Thus, it can be interpreted that *Better Birth* asks the viewer to focus on safe birth and *HBN09-02* asks the viewer to focus on the risk of birth.

Figure 5.10 Better births: safety and organisational culture.



Safety and risk are discussed in relation to the care of the unborn baby in a number of sections of *HBN09-02*. The document cover photograph of *HBN09-02* (Figure 5.2) is a close up image of a baby receiving care⁶³ and the document authors place maternity facilities within the context of a children-based care group. The spatial diagrams (Figure 5.7) prioritise a baby's welfare in their focus on ease of access to operating theatres and neonatal special care. The authors' inclusion of pregnancy screening, triage and routine neonatal care as building functions within a normal birth care pathway is interpreted as implying that repeated monitoring of a baby is part of normal birth. The safety of a baby is not necessarily in opposition to a focus on women's needs, however the authors of *HBN09-02* guide producers of spaces to centre spatial layouts on monitoring of the welfare of unborn babies.

5.3.3 A spatial context for physiological birth

Better Births does not present a role for the spatial context in achieving woman-centred aims. The one reference to the environment describes the work environment for staff:

Personalised care and choice are not just about a woman's experience ... We also know that when staff work in well led, positive environments and are supported to take pride in their work and to deliver high quality care, outcomes for women and their babies improve. (2016, p. 42)

HBN09-02 does identify a role in facilitating physiological birth for the spatial context, through the creation of:

A comfortable, relaxing environment that facilitates what is a normal physiological process, enabling self management in privacy whenever possible, and enhances the family's enjoyment of an important life event (2013a, p. 1).

However, the selection of photographs and spatial layouts in *HBN09-02* do not match this text-based rhetoric. For example, the room layouts do not highlight comfortable aspects of the rooms and a design specification is not given for a 'relaxing environment.' Photographs of example rooms (Figure 5.5) show metallic and plastic equipment – materials not commonly considered comfortable for furniture. The authors'

⁶³ This care is presumably given by a health professional, since the baby and carer have different ethnicity.

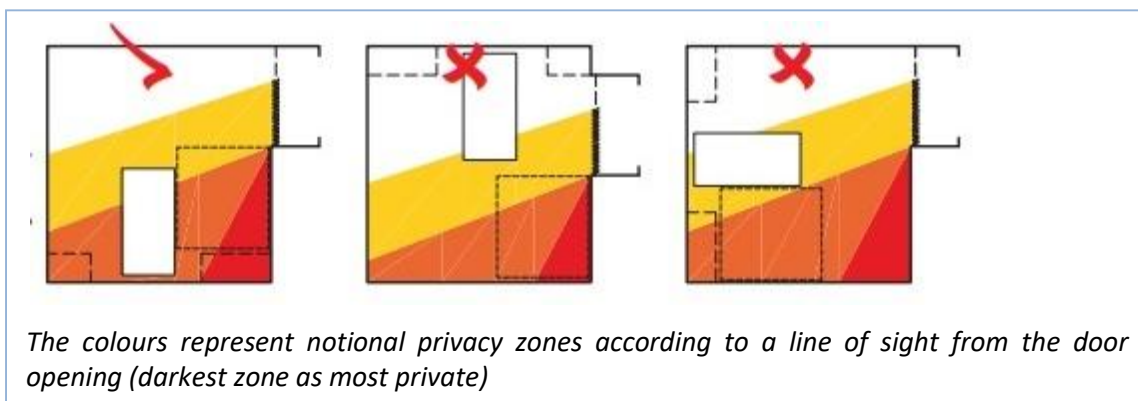
recommendations also contradict the advice given in the *NCT Tool*: activities presented in the *NCT Tool* as important for woman's comfort during labour (relaxing, preparing refreshments, watching TV, baby feeding) are described in *HBN09-02* as 'non-birthing activities' which 'may take place' in the room, but are not specifically provided for (Ibid., p. 28).

The core premise of the *NCT Tool* is that the comfort level of a birth room can be helpful or unhelpful to a woman in labour (Newburn & Singh, 2003b). The *NCT Tool* audit sheet identifies room characteristics that women thought would increase labour comfort: a 'homely looking' room with control over lighting and heating, and access to drinks, snacks and a toilet (Ibid.).

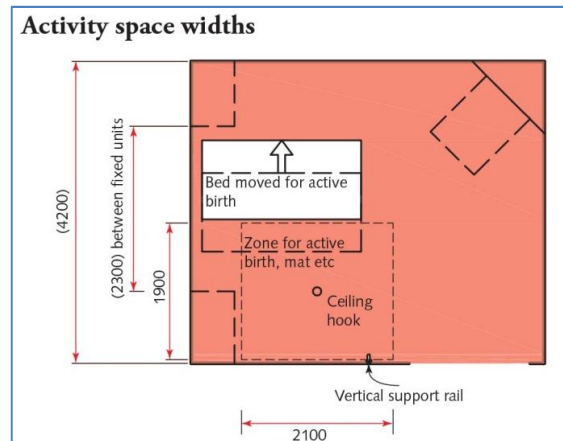
Women do not appear in any images in *HBN09-02* but a woman's privacy is considered in some of the plan drawings. These drawings express visual privacy as the relationship between the position of a hospital bed and the door; making recommendations so that someone on the bed cannot be seen from the corridor (*Figure 5.11*). This is interpreted as leading a designer to understand that women labour on a bed as a norm for room use, rather than encouraging the production of spaces for high levels of mobility. *Figure 5.12* shows a room set up for Active Birth⁶⁴ with well-defined staff equipment areas shown in thick dashed lines and the bed in 'its normal position' (2013a, p. 30). The Active Birth zone is shown in light dashed lines as a temporary adaptation of the room and is dimensioned relative to the bed and other equipment. Thus, when a woman does labour actively, the room has been designed to restrict her position to one area. The *NCT Tool* also discusses visual privacy as not being seen from the corridor but appears to imply that a woman will be mobile in the room:

As comfortable and relaxed as possible throughout labour, that their movement is not restricted ... and that they do not feel exposed when someone enters the room. (2003b, p. 3)

Figure 5.11 HBN09-02: Bed location and privacy diagrams



⁶⁴ Active Birth is an approach where a woman moves in upright positions to aid physiological labour.

Figure 5.12 HBN09-02: Designated active birth space

HBN09-02 observes that space is limited within a hospital context with a need to prioritise clinical activities over other activities. This contrasts with the *NCT Tool* recommendation that mobility should be prioritised by providing labour aids in birth rooms. *HBN09-02* recommends that only ‘consumables and small trolleys/CTG equipment’ (2013a, p. 30) are stored in the room. Storage of labour aids (listed as birthing stool, mat, bean bag and wedge) is recommended, ‘en suite or nearby to the room’ (Ibid.). When a room is designed according to the recommendations in *HBN09-02*, a woman has to ask for comfort aids without knowing what is available to her in an adjacent room. All the *HBN09-02* room layouts show birth rooms as a “window-less boxes” (for example *Figure 5.12* only showed a door position and not a window); thus, implying that windows are not an important design consideration. This does not fit with recommendations in the *NCT Tool* for easy access to outside space.

5.3.4 Room design presented as a technical process

Room design is presented in all the documents as a technical process in response to equipment and environmental requirements rather than how it feels to be in a room during labour. For example, *HBN09-02* provides room schedules which list out the lighting levels required to reduce medical errors and notes the ‘medical gas outlets (including oxygen, nitrous oxide/oxygen and vacuum)’ (2013, p. 24) that will be need in a birth room. Types of birth spaces are defined in terms of organisational processes across the whole maternity facility through reference to the number of births per annum, rather than the type of care provided. In contrast, *Better Births* presents service requirements in terms of the care provided for women. This is interpreted as an equally legitimate, less techno-rational, way of creating a design brief. The *NCT Tool* presents technical recommendations based on ‘if women designed birth rooms’ (Newburn & Singh, 2003b, p. 19). This is a potentially social client-led brief. However the recommendations are still translated into equipment lists. The

language used for these NCT recommendations mimics the technical language of architects and engineers: for example, giving specifications for soft flooring covers and under-floor heating. Also, the executive summary of Newburn and Singh's survey advocates standardisation to produce a repeatable high-quality environment rather than the alternative of personalising rooms for women (2003b).

HBN09-02 proposes rooms are laid out according to clinical function. For example, cleaning and infection control requirements locate the position of a birthing pool in a room and not consideration of the location a woman might prefer during labour. Similarly, furniture upholstery and soft furnishings should be selected with infection control in mind. The *NCT Tool* also contains lists of facilities-based requirements: en suite toilet and shower, a birthing pool, mats, cushions, and environmental specifications: under-floor heating, variable lighting, sound insulation. A final set of requirements in the *NCT Tool* can be argued to be more of a social design brief for physiological birth: a pleasant place to work, minimal disruption to a woman in labour in a single room, which constitutes a combined labour, delivery and postnatal care room. A distinct difference between the *NCT Tool* and *HBN09-02* is that *HBN09-02* layouts position medical equipment within a woman's sight in a birth room. The *NCT Tool* proposes that medical equipment is removed from a room or hidden from view. The *NCT Tool* displays a problematic pluralism by understanding room design as a set of technical and equipment specifications, yet stating that visible equipment hinders the progress of labour.

5.4 DISCUSSION

Early policy and maternity strategy in the Twentieth Century was centralist and generalist: by moving birth into hospital and considering childbearing women not as individuals, but as a health population (see Chapter 2). The design recommendations of *HBN09-02* can be interpreted as encouraging the production of birth spaces based on a past trend in healthcare architecture which emerged from a similar philosophy to that of superseded maternity policy aims. *HBN09-02* represents a need to standardise design and consider the birth room in relation to the larger organisational layout of a maternity facility; one that prioritises the provision of facilities to reduce risk to the unborn baby. *Better Births*, and the *NCT Tool*, position the woman at the centre of the birth room and express less interest in the larger spatial context of the rest of her care.

Past maternity policy presented safe childbirth as in the hands of medical experts. This is evident in the recommendation for birth to take place in hospital, as the context

considered to be the domain of such expertise. *Better Births* states that women want safe *and* personalised care (National Maternity Review, 2016). It situates safety in a woman's perception of a safe place for birth and expresses that human relationships are important in achieving safe birth.

Risk is a persistent theme in the research areas that interest evidence-based healthcare architects: medical errors and lighting; infection control, for example. The authors of *HBN09-02* imply that certain types of equipment in a birth room can achieve safe birth and minimum door widths and furniture layouts to make birth rooms function well during emergency situations. The importance of the use of space by members of staff is indicated with the labelling of professional roles in certain spatial positions for imagined emergency scenarios (see *Figure 5.9*). Personal correspondence with the NHS Principle Healthcare Architect confirmed the importance of risk factors in the production of the evidence for *HBN09-02*:

We employed an architect and ergonomist [*to produce the layouts or space studies*]. [*The Expert Working Group*] looked at risk and drew up the scenarios that spatial solutions would need to meet (such as twin birth with both twin and mother resus needed). This was followed by an NHS maternity unit hosting simulations, with the ergonomist determining critical dimensions and the architect eventually putting them together in the form of a layout. (Purden, 2013)

I interpret this risk-based design process as unconsciously confirming what midwifery researchers have previously observed: 'the modern hospital birth room [*is*] a place that informs the woman, her supporters and carers that she is vulnerable and endangered, and this is what she becomes: "a woman at risk of peril and death rather than a woman in rapture to birth and life" (Foureur, Davis, et al., 2010, p. 522). Foureur and Davis Harte observe that current design continues to be based on birth as 'dangerous and risk-filled' (Foureur & Davis Harte, 2017, p.108) and focuses on 'heightened surveillance' (*ibid.*) and transfer to an operating theatre. The observations of these researchers suggest that women are able to interpret and experience within a room, a designer's intent if it is based on birth as risky to a woman and her baby.

HBN09-02 represents a maternity facility layout as a series of system-based flow diagrams and dividing care into the same three medical stages precipitated by *The Short Report* in 1980 that lead to the definitions of antenatal, perinatal and postnatal stages in maternity care (House of Commons, 1982, 1984, 1985). Space is further divided according to the professional division of services (obstetric or midwifery) for each of the three separate stages. Awareness of the continuum of a woman's childbearing experiences is not evident in this structuring of space. Midwifery researchers critique this approach as

mimicking Taylor's time and motion studies and Ford's production line principles (Walsh, 2006b).

The spatial layouts presented in HBN09-02 contain similar visual clues as those shown in Bowden et al.'s (2016) study of internet images of birth rooms. This suggests that a common understanding exists for how institutional birth rooms are represented and conceptualised as architectural spaces. These rooms appear to be conceived with the assumption that a woman will 'lie down, and assume a passive pose, allowing health care providers to watch and monitor her' (Bowden et al. 2016, p.76). The bed takes up the central part of the room in the drawings that will be interpreted by designers for their building projects. This contrasts with what is known from architect Lepori's (1994) observation that labouring women move in a spiral path and need an empty space in the centre of the room.

Drawings take on many roles for architects, not just as communication with others, but as a thinking and problem-solving tool (Lawson, 2014). They are 'the primary form of representation' (Do & Gross, 2001) for building projects and architects read the 'configurations, connections, shape, and orientations of physical forms' (Ibid., p. 135). *HBN09-02* represents all spaces within a maternity facility in a techno-rational, ordered manner. The underlying spatial message contained in midwife-led and consultant-led rooms alike is also about reducing risk in an emergency situation rather than the preferred patterns of movement of a labouring woman. The room with an "active birth zone" (*Figure 5.14*) has the same scientific medical approach as other consultant-led rooms.

Similarly to the images in *HBN09-02*, Bowden et al. (2016) found that internet images do not 'demand' a response from the viewer, since no human figures make direct eye contact with the viewer; and most images did not contain people. Women understand the norms of birth rooms through images (Ibid.). Images that do not contain people, or that show spaces observed from a distance evoke a detached response from designers and users..

HBN09-02 shows an apparent lack of awareness of the critical discussion of birth spaces in midwifery because it portrays birth spaces in a techno-rational way. When language is considered in the phronetic manner proposed by Flyvbjerg (2001), the *NCT Tool* and *Better Births* critique existing medical environments: the NCT **Better** Birth Environment Audit Toolkit; **Better** Births: **Improving** outcomes of maternity services. *HBN09-02* as a resource for designers does not identify the same need for change in existing maternity facilities. *HBN09-02* was the recommended design guidance for the 2013 Department of Health

Capital Fund for Improving Maternity Care Facilities (Department of Health, 2013b). The effectiveness of a campaign such as this to improve birth spaces, is likely to be reduced when the underlying document used by designers does not promote a culture of change.

HBN09-02 contains design practices that are often criticised as not supporting woman-centred care, for example, strategies such as concealing equipment around the head of the bed as ‘medical camouflage’ (Fannin, 2003). Members of staff are drawn as part of the room layout in the same way as the furniture (*Figure 5.9*). This can be interpreted as staff locations as part of a given room layout and not something that a woman will control. The privacy diagrams do not consider privacy from other people inside the birth room (*Figure 5.11*) and are only concerned with a woman being seen from the corridor, if she is on the bed. Foureur observes that rooms designed like this are ‘a stage on which the woman becomes a spectacle under constant surveillance and control’ (Foureur, Davis, et al., 2010, p. 522).

This document critique has demonstrated the need to understand the interrelated nature of documents in order to have an architectural understanding of their influence on the production of birth spaces. It is important to contextualise documents (Ledin & Machin, 2018) since practitioners often access sets of interrelated documents rather than accessing one source of guidance. *HBN09-02* presents its authority as a document through its interrelation with other NHS technical design documents in a series of publications. This strengthens the position of a document such as this, through its association with the organisation producing it⁶⁵. Documents such as the *NCT Tool* produced by a charity with a more robust evidence-base for its claims may not be viewed by designers as having the same authority.

Here, I discuss the design brief for Maggie’s Centres as an example that could inform new forms of design briefing documents for birth spaces (a brief description of Maggie’s Centres is at the end of Section 2.4). These Centres are designed through an architect’s interpretation of a design brief that was created from a personal experience of receiving cancer treatment in a hospital setting. The commissioners value the skills of the architect in their selection of several ‘celebrity architect’ (Jencks, 2015) to give a unique architectural response for each building (for example Frank Gehry, Zaha Hadid, Richard Rogers). This contrasts significantly to the standardised design intention of *HBN09-02*. Conforming to standards is the valued skill set for a designer who is also face-less and unknown.

⁶⁵ The *HBN09-02* relies on secondary evidence sources and lacks a peer-reviewed primary evidence-base.

Maggie's brief is not prescriptive of what the space will be like (compared with the dimensioned plans of HBN09-02), and is written in a direct style to a user audience to explain how it might feel to inhabit the spaces. As this example shows:

The concern is for you as a person; the focus is on you, not the disease. We need to think of all the aspects about a hospital layout which are so demoralising: the closed doors implying secrets withheld, the endless corridors, the signposting, the artificial light, and then unpick and unravel these. At Maggie's we don't have signs, even on the toilets...you wouldn't in your own home, would you? (Maggie's Centres, 2018)

More importantly, it responds to user needs through the creation of a therapeutic setting that is 'welcoming, risk-taking, aesthetic and life-affirming' (Jencks, 2015) with a commitment to all arts (including for example landscaping).

There is an undervaluing of the social value of architecture in the practice context of these core policy-related documents for birth spaces. Samuel et al. (2015) note in a critical review of similar 'grey literature' for housing policy that the input of architecture is undervalued, and I argue this is also true for birth space. Samuel et al. conclude in their study that there is:

[An] undeveloped research culture within the profession. One of our main findings is that too much weight is given to the final built artefact when a building or place is the result of a huge interdisciplinary team making it very difficult to trace back the value of the Architect's input once construction is completed. (Samuel et al., 2015, p.4)

5.5 CHAPTER SUMMARY

When reviewed as semiotic material and analysed in relation to relevant critical spatial practices and social theory, these policy guidance documents reveal significant inconsistencies between the design principles available for the design of birth spaces and the principles of woman-centred, personalised care found in the most recent policy guidance. Thus, there are problematic differences between design intentions for the *technical* production of space through its physical construction, and the policy intentions for the *social* production of space in how women are cared for during labour.

Spatial aspects of midwifery practice are absent from *Better Births* as a maternity policy document. It would be unusual for space to be considered in this type of document intended for health professionals and not design professionals, but it also demonstrates a lack of value afforded to spatial practices. The authors of *HBN09-02* conceptualise rooms as belonging to one of two categories, high and low risk, and present associated room layouts.

A fundamental missing element for how space is represented by all three documents is how it is experienced or "consumed" during labour and birth. Rooms have a standard

layout presented within *HBN09-02* which will be created before the arrival of a woman in the space. Thus within these standards, active birth would be viewed as an adaptation of a room and not a normal spatial practice. *HBN09-02* favours evidence of clinicians' needs, especially for their emergency use of birth rooms. In contrast, the *NCT Tool* evidences women's needs and identifies elements that facilitate physiological birth in the day-to-day use of birth rooms. In combination, this evidence could potentially accommodate the needs of all users in their consumption of such space.

The impact on women's spatial practices of space produced through this guidance is explored in the findings chapters that now follow. These chapters describe women's experiences and acknowledge the social production of space happens through the 'the interweaving of individual agency with structure through time' (Bourdieu et al. 1968/1991). The thesis now shifts to the more intimate scale of women's interactions with birth spaces; experiences shared through the birth stories they told and drew.

CHAPTER 6

INTRODUCING THE WOMEN & VENUES

6.1 CHAPTER OUTLINE

Here, the twenty-four women participants and the ten birth venues where they gave birth are introduced. Most women prefaced their story by explaining their prior choice of birth venue. This chapter presents the emergent themes on the prior experience and expectations that influenced these choices. The women's birth narrative and drawings are then shared in the chapters that follow.

6.2 INTRODUCTIONS

6.2.1 The women

The following assigned "flower names" (as pseudonyms) are used throughout the findings chapters when quoting from a woman's experience:

Aven, Briony, Cassia, Daphne, Encina, Felicia, Gardenia, Heather, Iris, Jasmine, Kerria, Lily, Mazus, Nikko, Oleander, Peony, Quassia, Rose, Sage, Torenia, Urbinia, Vitex, Willow, Yarrow.

The pen portraits summarise each woman's experience and are in alphabetical order: *Figures 6.1 and 6.2.*

6.2.2 The birth venues

The birth venues have the following acronyms in the findings chapters:

<i>Alongside birth centre</i>	ABC	<i>Cassia's home</i>	H.C
<i>Consultant-led unit</i>	CLU1	<i>Daphne's home</i>	H.D
<i>Consultant-led unit</i>	CLU2	<i>Felicia's home</i>	H.F
<i>Consultant-led unit</i>	CLU3	<i>Iris' home</i>	H.I
		<i>Jasmine's home</i>	H.J
		<i>Lily's home</i>	H.L
		<i>Nikko's home</i>	H.N
		<i>Torenia's home</i>	H.T

Figure 6.3 presents the plans and sections (at a scale) for the ten birth venues for comparison of size and layouts. Women talked about all the spaces they encountered during labour. *Figures 6.4 – 6.7* are detailed planes of the venues to aid the reader in visualising the layout and types of spaces available.

Figure 6.1 Pen portraits of the women (names A-L)

Key:

Number of babies equals how many births she has experienced

The position of the interview in the sequence of 24 interviews (N/24)

<p>AVEN ABC</p> <p> This birth in pool room of ABC (but not in pool). First baby born in CLU1</p> <p style="text-align: right;">22/24</p> <p>INTERVIEW: In her living room with two children present, quite a disrupted interview.</p> <p>BIRTH: Enthusiastic about water birth as first child born in water. ABC opened after first birth. Requested a room with pool. Quick birth and pool not ready in time. Spent night in same room after the birth.</p>	<p>BRIONY CLU1</p> <p> Birth in operating theatre of CLU1. Planned a water birth in the ABC.</p> <p style="text-align: right;">24/24</p> <p>INTERVIEW: In her dining room, no baby present.</p> <p>BIRTH: Wanted a waterbirth at the ABC. Transferred from home to ABC twice. Eventually went into CLU1 to be induced due to waters breaking. Then caesarean birth in operating theatre.</p>
<p>ENCINA CLU3</p> <p> This birth in standard room with ensuite at CLU3. Same room as MAZUS, IRIS & PEONY. First baby also born at CLU3.</p> <p style="text-align: right;">03/24</p> <p>INTERVIEW: In her living room with two children present, occasional disruption by older child chatting.</p> <p>BIRTH: This was her 2nd birth at CLU3. She did not feel the need to research her place of birth, or know statistics for different options. She was happiest to be close by to medical assistance and to do as she was advised by the midwife. She did not feel the need to adapt the space to her. Birth was soon after arriving in the room.</p>	<p>FELICIA HOME.F</p> <p> This birth in a birthing pool in living room of home. First birth in birthing pool in small bedroom at same home.</p> <p style="text-align: right;">05/24</p> <p>INTERVIEW: In her living room with baby present.</p> <p>BIRTH: This was her 2nd birth at the same house. Passionate about creating a protected space. Supported by a homebirth group. Planned the set up of house, partly in response to first experience of birth in same house. She planned a separate space for the midwives so they did not enter the birth space until she was ready. She had a doula who also managed the space for her.</p>
<p>IRIS CLU3 / HOME.I</p> <p> In a standard room with ensuite at CLU3. Same room as ENCINA, MAZUS & PEONY. Planned for birth to be in birth pool at home.</p> <p style="text-align: right;">07/24</p> <p>INTERVIEW: In her living room where she had planned to give birth. Baby present for the end of the interview.</p> <p>BIRTH: She carefully researched the place of birth and chose to be at home. The main space (living room) was adapted and had a pool. She had a doula and an independent midwife. It was a long labour, she coped well with hypnobirthing techniques but began to tire. There was meconium when her waters broke and she transferred to CLU3 by ambulance. She described using hypnobirthing to take her 'home birth space' with her into hospital.</p>	<p>JASMINE HOME.J</p> <p> This birth in a birth pool in the dining room of her home. First birth at CLU2.</p> <p style="text-align: right;">08/24</p> <p>INTERVIEW: In her dining room, where the birth took place with no children present.</p> <p>BIRTH: She decided on home after her first birth at CLU2. She joined a home birth group for ideas and support. She considered the position of the birth pool and adapted the environment to suit. She described how her labour behaviour, using spaces in the same home, was different when she was waiting to go to hospital for the first birth. She did not want to be in the birth space after the birth, until it had returned to 'normal.' She planned a separate space for the midwives. She had a doula who managed the space for her.</p>

Blue background = Consultant-led Unit (CLU1,2&3)

Green background = Alongside Birth Centre (ABC)

Orange background = At home

Transferred to CLU1 from ABC

Transferred to CLU from planned home birth

Unplanned home birth (booked at CLU)

CASSIA**HOME.C**Birth in a birth pool
in her kitchen.

01/24

INTERVIEW: In the kitchen of her home, no baby present. This was also the room where the birth took place. The first interview, so I was learning how to manage the interview material.

BIRTH: Home birth was quite a late decision after conversation with her midwife. Supported by home birth group, that gave her ideas. She planned the space for the birth, but then was open to changes during the birth. Gave birth in pool.

DAPHNE**HOME.D**Birth in a birth pool in the
dining area of her living
room.

02/24

INTERVIEW: In the living room of her home, with her baby present. This was also the room where the birth took place.

BIRTH: She had experienced a very medical start to her pregnancy but strongly believed that she would have a healthy pregnancy and birth. The decision to have a home birth came quite late and she experienced it as cathartic because of her previous fertility treatment. Gave birth in pool. She felt like it was just her and her husband together even though midwives were present.

GARDENIA**CLU2**In a standard
room with no
ensuite at **CLU2**

04/24

INTERVIEW: In her living room with baby present.

BIRTH: She stayed at home as long as she could. At the CLU, the maternity assessment area was full, so she was allocated a bed on another ward. Then spent a lot of time in a small, standard hospital bath room. Transferred by wheelchair to birth room. Birth was quick after arriving in the room. She was happy to accept room as it was and do what the midwives advised for birth on the bed.

HEATHER**CLU1**In a larger high risk
room with shared
bathroom at **CL1**.

06/24

INTERVIEW: In her living room with her baby present, and the radio on in the kitchen (difficult to hear on the recording).

BIRTH: She experienced the birth as difficult and had received counselling. She was induced at the CLU on a ward. She transferred to a large room on the labour ward, which she believed to be a high-risk room. Experienced increasing amount of intervention which she found restrictive.

KERRIA**CLU2**In a standard
room with no
ensuite at **CLU2**

09/24

INTERVIEW: In her living room with baby present.

BIRTH: She was induced at CLU2 due to complications with her blood pressure. The hospital was 'full' to begin with so it took a while to get a room. She spent a long period of time in the birth room, including overnight. She spent much of this time on the bed. She interpreted and gave meaning to equipment in the room and her room allocation. She spent time being concerned about the comfort of her birth partner. Her baby was born by forceps (?).

LILY**HOME.L**Birth in the bathroom of her
home. Planned for the birth
to be at **CLU2**.

10/24

INTERVIEW: In her living room with her baby present.

BIRTH: She gave birth in the bathroom of her home. The baby was born before the arrival of a midwife, but there was a paramedic there as they had phoned for an ambulance. She planned to go to CLU2. She had some concerns about the arrangements for the birth at the CLU because of her high BMI. She surprised herself at how well she laboured at home. She was assessed at the CLU and sent home as not far enough progressed in labour. The birth was quite quick after arriving back at home.

Figure 6.2: Pen portraits of the women (names M-Y)

Key:

Number of babies equals how many births she has experienced

The position of the interview in the sequence of 24 interviews (N/24)

<p>MAZUS CLU3</p>  <p>This birth in standard room with ensuite at CLU3. Same room as ENCINA, IRIS & PEONY. First baby also born at CLU3.</p> <p>11/24</p> <p>INTERVIEW: In a small room at a Children's Centre. English was her second language. Relatively short interview, disrupted by others coming into the room.</p> <p>BIRTH: This was her second baby in the UK. Her older child was poorly when Mazus was in labour so her husband stayed at home. She got a taxi to the hospital. Pragmatic approach to the birth, and followed the behaviour requested of her by staff in the hospital.</p>	<p>NIKKO HOME.N</p>  <p>This birth in the living area of home. First birth also in same living area. Home is canal boat that was in two different locations for the births.</p> <p>12/24</p> <p>INTERVIEW: In the living space of her boat (where the births took place) and both children present. Disrupted but fascinating interview.</p> <p>BIRTH: She had strongly-held and well-thought ideas about how she wanted to give birth. She knew that she wanted to free birth (without medical assistance). She used her home, a boat, to create a well-protected space for labour, including moving location to prevent unwanted visits from midwives during labour. She incorporated ideas connected to spiritual aspects of giving birth. She used the structure of the roof of the boat as an important focus of physical support during labour.</p>
<p>QUASSIA CLU2</p>  <p>This birth in a 'homely' room with large ensuite at CLU2. Same room as OLEANDER.</p> <p>15/24</p> <p>INTERVIEW: In her living room with her baby present.</p> <p>BIRTH: She described her approach to labour as pragmatic and active, and that she was a fit and active person. She felt labour was something for her to deal with, and she wanted a separate, but close-by, space for her husband who was uncomfortable about being in a female environment.</p>	<p>ROSE CLU2</p>  <p>Birth in operating theatre of CLU2.</p> <p>16/24</p> <p>INTERVIEW: In her kitchen with her baby present.</p> <p>BIRTH: Her labour was induced early, and before she was able to attend antenatal education. She felt strongly about the layout of the assessment ward and how it was unhelpful for labouring. She described the birth room as medical and how she was 'blanking out' the environment around her in order to cope with it. Her baby was born by caesarean in an operating theatre.</p>
<p>URBINIA CLU3</p>  <p>This birth in an 'active birth' room at CLU3.</p> <p>19/24</p> <p>INTERVIEW: In her kitchen with her baby present.</p> <p>BIRTH: She described her family background as medical and so she was aware of the risks of birth and some level of anxiety over this. She was very keen to use a particular room at CLU3 which she had seen when attending antenatal education. This was a space with a large ensuite and specialist 'active birth' equipment. This room was available and she had a very positive birth experience. She used both the ensuite and the actual room. She transferred home straight from the room.</p>	<p>VITEX ABC</p>  <p>This birth in pool room of ABC. In the room seen as the 'best room.'</p> <p>20/24</p> <p>INTERVIEW: In her living room with baby present towards the end.</p> <p>BIRTH: She had enjoyed labouring at home and used both the upstairs and downstairs of her house. She had her baby in the pool of the 'double room' in the ABC. She liked having the separate space with the bed, to relax in after the birth, but still be in the same overall room on the ABC. The first room she used at the ABC did not strike her to be a birth room: she thought it was a waiting room. The route to the ABC was direct once she arrived at the CLU1 and there was no triage system.</p>

Blue background = Consultant-led Unit (CLU1,2&3)

Green background = Alongside Birth Centre (ABC)

Orange background = At home

Transferred to CLU1 from ABC

Transferred to CLU from planned home birth

Unplanned home birth (booked at CLU)

OLEANDER

CLU2



This birth in a 'homely' room with large ensuite at **CLU2**. Same room as **QUASSIA**. Previous births also at **CLU2**.

13/24

INTERVIEW: In the dining area of her kitchen with no baby present.

BIRTH: She had a longer pregnancy and had been asked to come into CLU2 for induction. She spontaneously went into labour the same morning. She arrived at the hospital and then used the outdoor space to try to progress labour before re-entering the building. She used the space in the 'homely' room to create a corner for herself. She used the large bath in the ensuite as a birth pool, but got out just before the birth, and baby was born in the other part of the room.

PEONY

CLU3

Birth in an operating theatre at **CLU3**. Before the operating theatre: Same room as **ENCINA**, **IRIS & MAZUS**.

14/26

INTERVIEW: In the living area of her apartment with baby present. Quite disrupted by the baby.

BIRTH: She had considered home birth and birth centres. She had an independent midwife. Her waters broke and labour did not start. After waiting an extended period of time, she decided with her midwife to go to CLU3 and to be induced (?). She felt she was fighting a system and found it difficult to get a birth room. She was in this room a long time and adapted it a great deal. She agreed to a caesarean birth in the operating theatre.

SAGE

CLU2



Birth in an operating theatre at **CLU2**. Before that in a standard room with no ensuite at **CLU2**.

17/24

INTERVIEW: In her living room with no baby present.

BIRTH: She was induced. She noted that she did not have one of the best birth rooms because of this. She used the space behind the door as a protected space for her. She talked about feeling the pressure to be on the bed, and that there were allocated spaces in the room for staff. Her baby was born by forceps in an operating theatre.

TORENIA

CLU1



Birth under general anaesthetic in operating theatre of **CLU1**. Planned for birth to be in a birth pool in her living room.

18/24

INTERVIEW: In her dining room with her baby present.

BIRTH: She planned to have her baby at home and had an independent midwife (?). She prepared her front room and had a birth pool. During labour, her baby's heart rate dropped and she was transferred by ambulance to CLU3. She was in a birth room for a short time, before agreeing to a caesarean birth in the operating theatre. The birth was under general anaesthetic and she has found it difficult that she does not have a memory of the actual birth.

WILLOW

ABC



This birth in a standard room with no ensuite at **ABC**.

23/24

INTERVIEW: In her living room with no baby present.

BIRTH: Has an older child, so spent early labour with them and day-to-day activities. Laboured upstairs at home and used landing to pace back and forth. Straightforward arrival at the ABC.

YARROW

CLU1

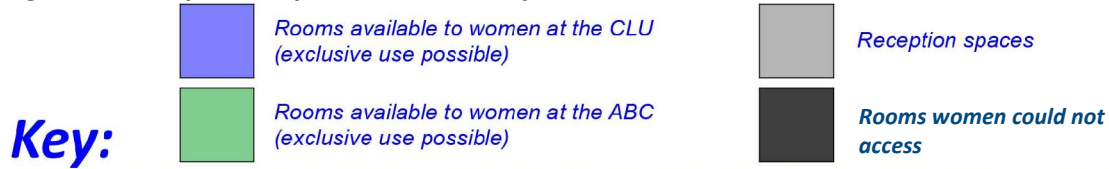


This birth in a standard room with no ensuite at **CLU1**. Antenatal stay and induced on ward before the birth. First birth also at **CLU1**.

21/24

INTERVIEW: In her living room with no baby present.

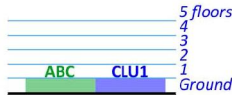
BIRTH: She spent time on an antenatal ward and then was induced on a ward. She felt she spent a lot of time waiting in spaces that were not comfortable. Sense of relief at finally being allowed onto labour ward. Her room was long and thin as if it had been two rooms previously. She surprised herself by how still she wanted to be in labour. Had a very supportive midwife.

Figure 6.3 Comparative plans and sections for the 10 venues

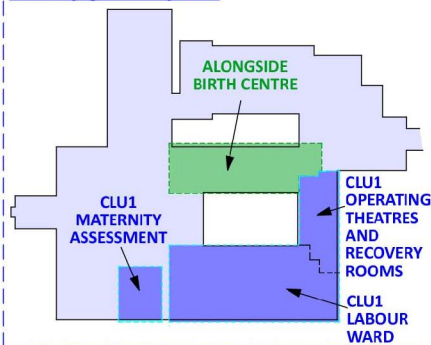
DRAWING SCALE FOR COMPARISON OF THE SIZE OF VENUES
0 10 20 30 40 50 60 70 80 90 100
metres

ABC & CLU1 co-LOCATED MULTI-FLOOR INSTITUTIONAL BUILDING

Level of maternity unit in building

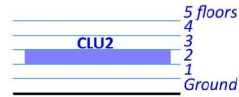


Plan of ground floor

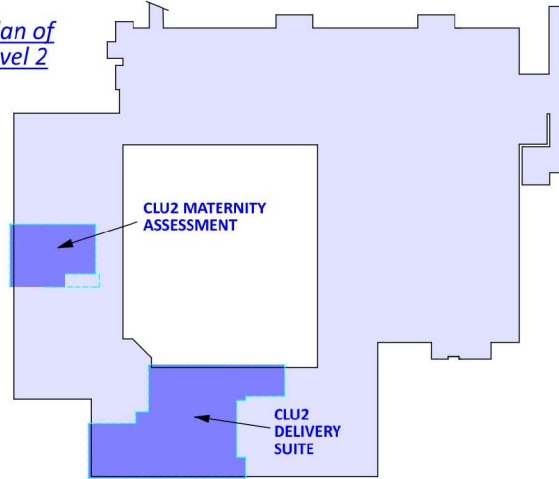


CLU2 MULTI-FLOOR HEALTHCARE BUILDING

Level of maternity unit in building

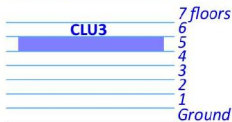


Plan of level 2

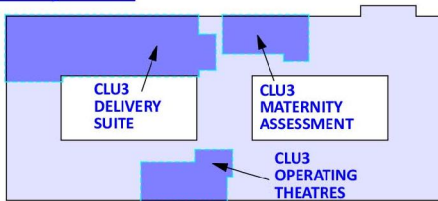


CLU3 MULTI-FLOOR HEALTHCARE BUILDING

Level of maternity unit in building



Plan of level 5

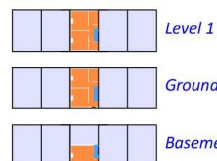


HOME.C VICTORIAN TERRACE

Levels in home



Plans at each level



HOME.D BUNGALOW

Levels in home



Plan



HOME.N BOAT

Levels in home



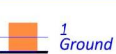
Plan



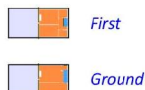
Surrounded by water

HOME.F SEMI-DETACHED

Levels in home

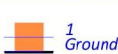


Plans at each level



HOME.I MID-TERRACE

Levels in home

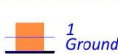


Plans at each level



HOME.J SEMI-DETACHED

Levels in home

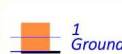


Plans at each level



HOME.L SEMI-DETACHED

Levels in home



Plans at each level

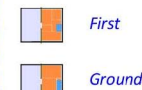


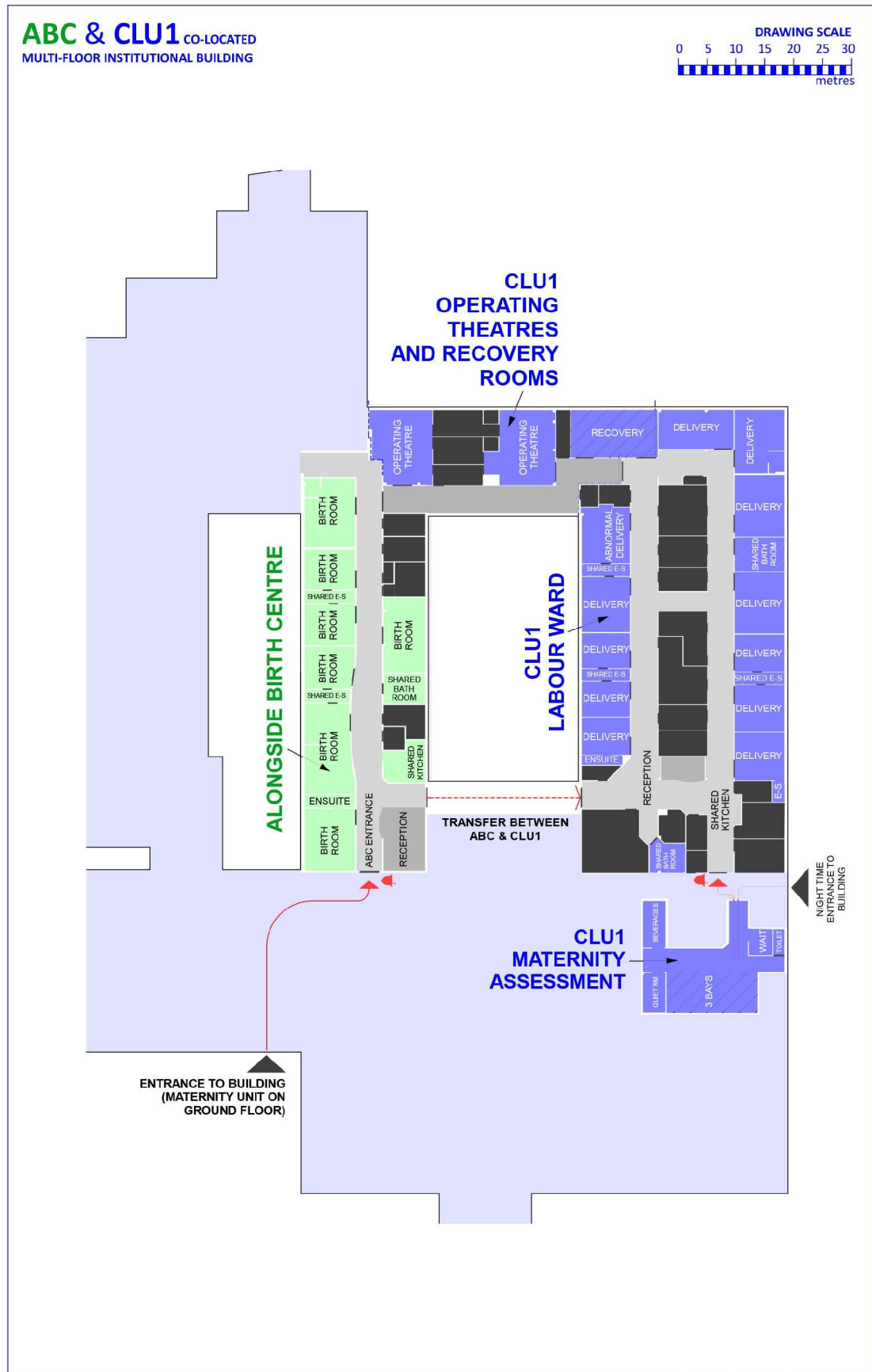
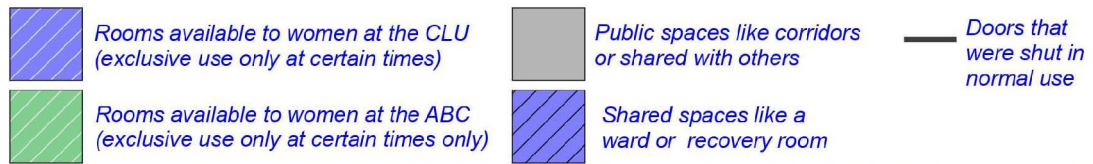
Figure 6.4 Plan of the ABC and CLU1

Figure 6.5 Plan of CLU2

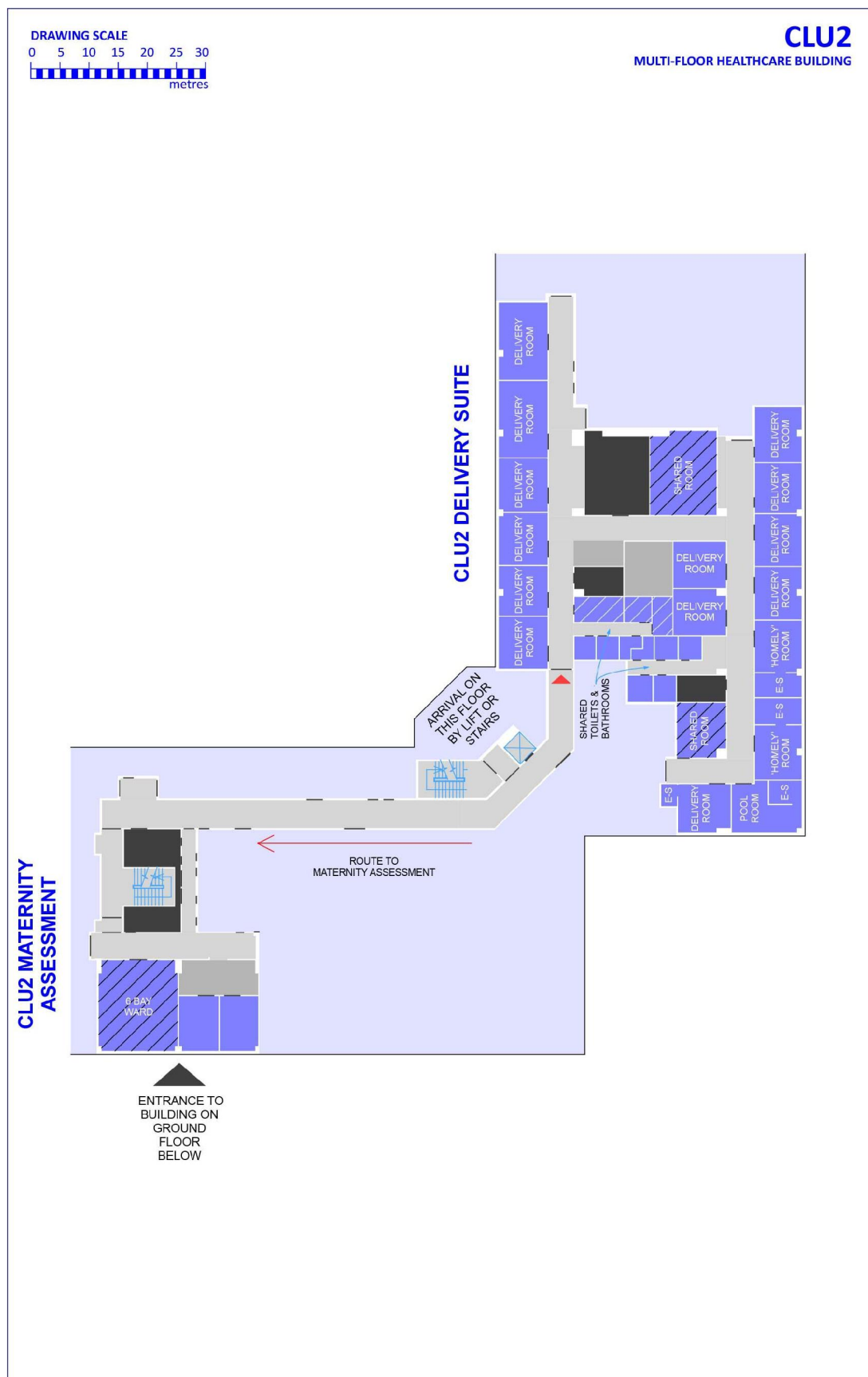
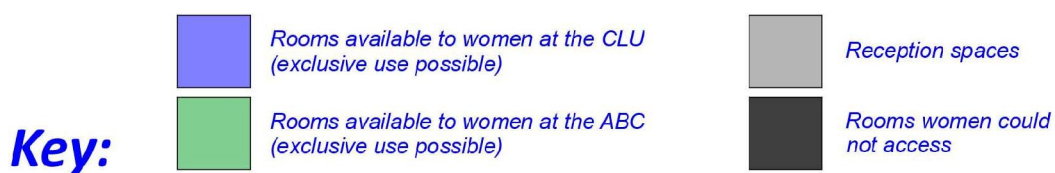


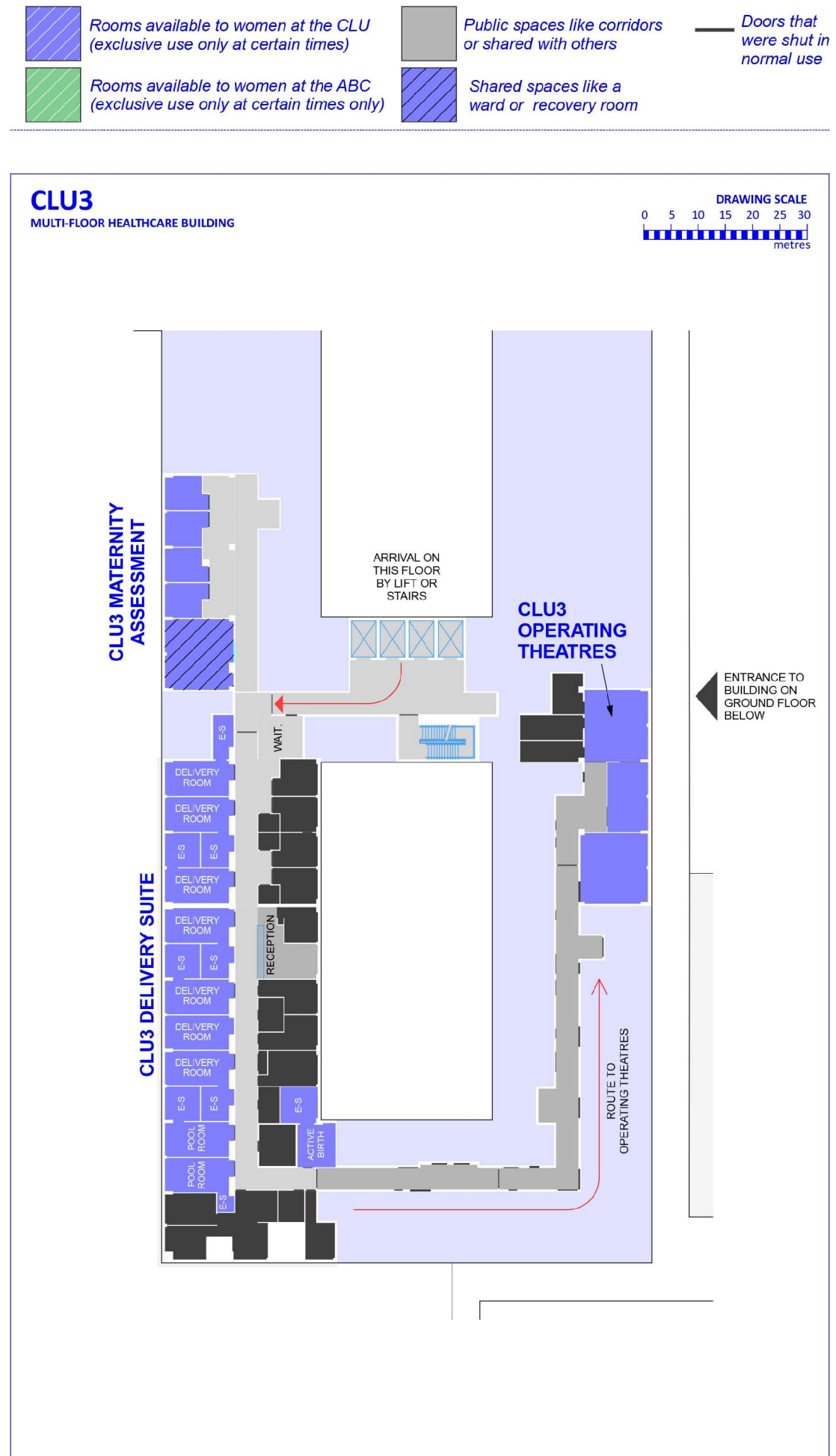
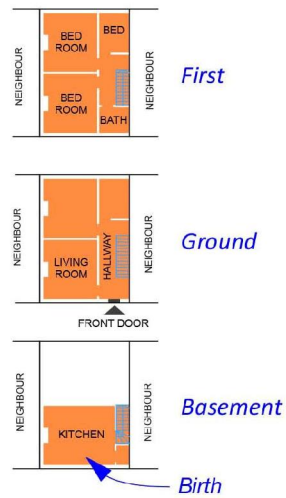
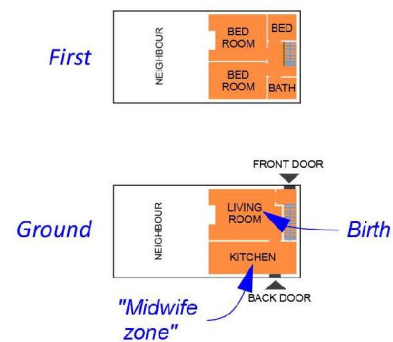
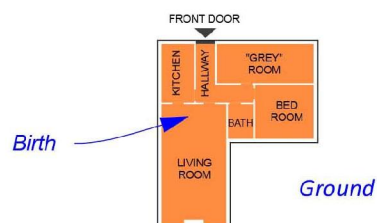
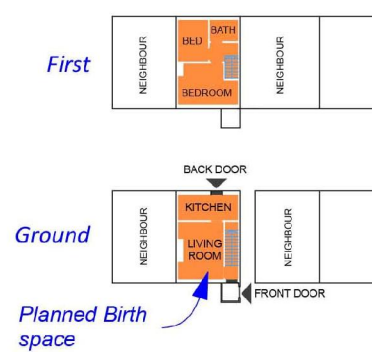
Figure 6.6 Plan of CLU3

Figure 6.7 Plans of the women's homes used for home births

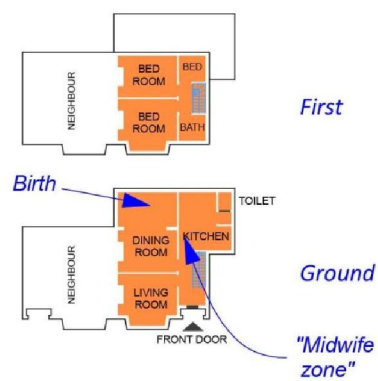
Key: Rooms available to women in their home (exclusive use possible) Rooms women could not access

DRAWING SCALE
0 5 10 15 20 25 30
metres

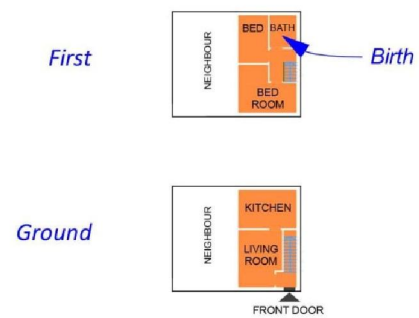
HOME.C VICTORIAN TERRACE**HOME.F** SEMI-DETACHED**HOME.D** BUNGALOW**HOME.I** MID-TERRACE



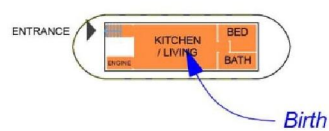
HOME.J SEMI-DETACHED



HOME.L SEMI-DETACHED



HOME.N BOAT



6.3 PRIOR EXPECTATIONS FOR BIRTH SPACES

6.3.1 Introduction

Women had prior knowledge of childbirth and birth venues. This knowledge emerged from many sources and experiences and women varied in how much they sought out information, and in which sources they trusted. Their choice of birth venue was influenced by expectations of the type of birth they would experience and how much control they expected to have over the unfolding events of labour.

6.3.2 Choice of venue and control over choosing the birth room

Women expected varying levels of choice and control over the spatial context of within which they gave birth. A significant number expected little control, especially over the selection of the birth room. Once inside the hospital, Rose for example, did not need to know which room she would have for the birth:

I'm not one of these people who need to be in control all the time so I was happy for the control to be passed to other people ... For me, they were just rooms. **Rose CLU2 [Induced, C/S]**

Women felt more confident about having control over their choice of venue than the actual room:

You don't really have any say in it do you? You can say, "well I prefer to have one with a pool." There's no guarantees ... I didn't think I had a choice. **Oleander CLU2**

A few women placed high value on their ability to control factors in preparation for the birth, as much as was possible. Nikko, Peony, Jasmine and Daphne all made definite choices in selecting a venue prior to birth. For Nikko her choice to free birth at home was about protecting herself from the medical system within a hospital context:

You would never have got me in a hospital. That's it. I'm just not prepared to give up my safety, my body, my mental health, emotional health, the safety of my children to medical professionals. I don't trust them as far as I can throw them and I am just not prepared to have them anywhere near me. **Nikko H.N**

Peony completed extensive research of local venue choices. She gave the same consideration to all the local hospitals, birth centres and her home, using online statistics and women's views from online forums. She also visited many of the venues. She appeared well-educated on the role of hormones, lighting and the presence of people in creating good environments for birth. She wanted to be certain about what the birth room would be like:

I was booked in originally to go to [*the ABC*] and then went to have a look round [*second birth centre*] and changed my mind. I liked it at [*second birth centre*], just because it was a newer facility. You were guaranteed your own room with bathroom

whereas at [ABC] you weren't ... you might have to share a bathroom. **Peony CLU3 (Induced, C/S)**

The decision to give birth at home often involved an extended period of consideration. Daphne considered a home birth in early pregnancy but did not make the decision until much later, at 36 weeks of gestation. Jasmine described the research she completed to compare the outcomes for home and hospital before making a definite decision. Cassia also researched home as an option after her midwife suggested she should consider it:

I've never really considered [*home birth*]... When I first went for the booking appointment, and they said, "oh and where are you going to give birth?" I just went, "Oh, [CLU2] probably it's closest." It was the midwife there who said, "have you considered home birth?" I went, "no not really" and she said, "Well do you want to? We'll not fill this box in, and we can fill in the next time you come." So I went away and did some research and went "that's a **brilliant idea!**" **Cassia H.C (Water)**

Urbinia's need to control the details of her birth experience led her to choose a venue that was a significant drive from her home. She wanted the same 'place of birth' on the birth certificate of her baby as she and her siblings had:

I put a lot of thought into [CLU3] and because people were like, 'well why not [CLU2]' but [CLU3] to me seemed like the perfect place. I feel like the place was really like influential to me. **Urbinia CLU3**

Urbinia identified herself as a 'worrier' and felt there were aspects of the birth she needed to control. On the antenatal tour of CLU3, she saw a room she really liked: 'it's such an amazing space ... a fantastic space.' Much of her storytelling of early labour reflected the anxiety of waiting to know if this room was available:

The place is really important to me and ... I really tried to prepare myself for the fact I wasn't going to have the active birth room, because I really didn't think I was going to, I would have been upset. **Urbinia CLU3**

Quassia wanted to eliminate the risk that the venue might change during labour. She considered the venue choice as her decision but that during labour others had control over where birth took place:

Because I was older mother and I'd seen what could go wrong with friends ... that had a big impact on where I chose to give birth ... I knew where I was going to give birth so ... I think if I'd decided on a home birth and then ended up in hospital, I would have had said it has a very negative effect on how I see birth but I didn't, I was prepared for the hospital environment. **Quassia CLU2**

All the women made a venue choice prior to the start of labour. Two themes emerged about choosing a birth venue: gaining certainty that the birth would take place there and reassurance that expertise would be available if needed. Some women dismissed home birth based on the same themes: Quassia (noted above) for reasons of certainty and Yarrow for the availability of expertise:

So that initially when you are first pregnant, “would you consider a home birth?” and I said no on both occasions on the basis that I like this support of having people on call that can help you. **Yarrow CLU1 (Induced)**

A woman’s strategy for obtaining control over the final birth location and her access to appropriate expertise are influenced by her interpretation of the nature of a birth venue. This can be shown through Jasmine’s discussion of events that led her to choose a home birth. Jasmine felt she relinquished control at her first hospital birth at CLU2. Taking into account that she could transfer to hospital during labour, she still saw booking a home birth as a way of maintaining control over her choices during labour:

“I went to the home birth group and heard people talk ... and quite a few of them had births that weren’t necessarily home births. They actually ended up going into hospital ... but it allowed you to have choice all the way through. **Jasmine H.J (Water)**

Women said they liked the ABC birth centre but did not make an active choice to go there. Low-risk women were booked for the ABC by default, only transferring across to the CLU1 if necessary. Aven’s first birth was in CLU1 before the ABC was built. She did not express a venue preference but had a preference for access to a birthing pool. She was the only woman who chose the location during labour. She went to the ABC during early labour, when a midwife examined her and confirmed her labour⁶⁶. She looked round the birth centre and at this point developed a preference to go there, but access to a pool was still the main thing she wanted to control: ‘I said, if I come back in the afternoon ... I’d really like to have a water birth and then when I got there I said, “is there any chance of having a water birth?”’

Nikko and Briony’s explained that their venue choices expressed aspects of who they were as people:

That’s why we’re on a boat, so I choose everything. I choose not to live on the grid [...] I choose to live this way on the **many** levels it is an ideological and political choice which includes birth. As a birth choice, and how I choose to give birth reflects my lifestyle choices. **Nikko H.N**

Briony saw herself as coming from a line of fit and healthy women. Her planned water birth reflected her self-image:

I mean, me and my mum are both swimming teachers so we thought it would be quite nice to bring her into the world under water because it was quite fitting because we’re both like, water people. **Briony CLU1 (Induced, C/S)**

Other women viewed the choices they made for birth as separate to their non-pregnant self-image. Quassia considered herself to be a fit and active person, but interpreted that her

⁶⁶ This was the normal procedure for low-risk women at this venue.

maternal age placed restrictions on which birth venue she could choose. Thus, she accepted that her age gave her less control over events in labour too.

Iris was the only woman who described using hypnobirthing techniques. Choosing the “right” venue was important to her, but she also concluded that creating a ‘mental environment’ mitigates the impact of being in a less ideal venue. Iris planned a home birth and her baby was born in hospital:

You’re either a passive recipient of that: OK I’m a patient now or, you try and maintain that control, you take that from your environment or you’re hypnobirthing (...) I think the environment has a huge influence and you can, if you can try and get a mental environment to take with you, it will help. **Iris CLU3 (unplanned)**

6.3.3 Hospital as ‘the place’

Some women viewed birth as unpredictable and anticipated they would need expert help to give birth:

It’s not something you do every day whereas those people in hospital do see it every day and then, and you know, they helped me use my body in the best way to achieve a relatively quick birth. **Encina CLU2**

Hospital was seen as a place of clinical expertise, as Encina says: ‘If anything were to go wrong I’d be in the right place.’ Rose held a similar view but also questioned whether being close to expertise increased the possibility of intervention:

There seems to be a presumption that in hospital births that women will need help, and a presumption in home births that they won’t need help and the reality is somewhere between the two and so I think home births where you don’t have this clinical interference and they tend to let women carry on as they should ... and in hospital birth they do tend to be quicker to turn it into something else. **Rose CLU2 (Induced, C/S)**

A number of women went to the local hospital without considering other nearby options:

You’re waiting for something and then he **is** coming [*the baby*] and ... I want to get to meet him and then the hospital is just the place where it is all going to happen and I never even considered anything but a hospital. My sister-in-law had given birth in a midwife-led unit ... for me, I knew that the hospital was the right place. **Quassia CLU2**

Gardenia only looked round the closest venue and Cassia planned to go to the closest hospital before changing to a planned home birth. Women did not anticipate local variation in the service provided when more than one hospital venue was available. They did not see a need for comparing hospital venues:

I chose to basically use the closest one and people were like, ‘ooh why are you going there?’ But, I’m not one for reading articles or statistics about places like that. **Encina CLU3**

Oleander said she gave birth 'in the hospital environment that you've chosen because it was considered safer'. Hospitals are therefore associated, by some women, with safety. Jasmine also believed that hospital is the safest place and needed to read empirical research evidence before booking a home birth:

I'm a health professional and a researcher so I had to read research articles about home births to make sure it was safe enough ... and I had to switch off some of my medical brain that says that hospitals are a good place to be [laughs] before I could be OK with the idea. **Jasmine H.J (Water)**

Women varied in what they understood to be a safe birth but strongly related safety to the spatial context. Lily previously saw birth as risky and hospital as a safe place before her unplanned home birth. Her understandings of risk and safety changed in light of her birth experience:

It was less medical than I thought it should be ... beforehand, I saw birth as ... more risky ... whereas actually, I think I took for granted, even before today, how much being around at home probably made a very good impact on that. **Lily H.L (unplanned)**

Lily's understanding of hospital as a safe place started to be mediated during pregnancy, through conversations with health professionals about her 'plus size:'

I was really annoyed about being put in ... this ... obese box really, that meant that my birth was going to go down a set path and there was nothing I could do to change it ... other than a high BMI, I had great blood pressure, everything else was a textbook pregnancy. **Lily H.L (unplanned)**

Hospital then like a place where her choices would be limited:

They would take one look at me and see a forty-week pregnant, size 22 woman. They're going to look at you and say, "no you can't have a bath" because they didn't know me. Whereas at home, I can make those choices for myself. **Lily H.L (unplanned)**

Daphne was delighted with her home birth but other people told her she made a risky choice of venue:

Obviously things could have been different but it weren't different and a lot of people, you know people hear my birth story and go [*dramatically*], "oh my god, are you going to **sue**?!" It seemed the right thing. [*my baby*] arrived *very* safe and *very* calm and *I* was well, *she* was well. And the 'what ifs' and the possibilities of what could of happened are just completely irrelevant. **Daphne H.D (Water)**

Birth at home represented the riskiest of all the choices for most women; women who chose home births saw this as the safest choice. Willow is typical in fearing birth at home, especially if this happened 'by accident' and without a midwife:

There are risks and you need some, you need someone with some expertise and I would have probably felt less comfortable or more concerned in my own home in a way without having a little bit of extra support. Well, I guess what I'm talking about, it's more about if I'd have accidentally had a baby at home, I would have felt more alarmed. **Willow ABC**

So I know that birth is normal ... but my personality is a very risk adverse personality and that's why I feel like I couldn't have a home birth because I know what can go wrong and I know I want to in a place where, you know, if she did need resuscitating or I needed resuscitating, that there's all the expertise there. **Urbinia CLU3**

Many held the view that expert help is not available at a home birth. Most of the women who birthed at home felt able to do so *because* they knew this expertise was available to them. They had confidence in their ability to give birth but all expected midwives to attend (with the exception of Nikko). The ABC as 'a happy medium, a happy medium, it was a good compromise' between home and hospital (Aven) was also a common view. It was important to Yarrow that the birth centre was co-located in the same building as the labour ward (CLU1):

I really liked the fact the birth centre was close to the part of the hospital ... fitted into the hospital because plan A was to go to the birth centre and I think that's really sensible to have a birth centre that has got both ... and I see the need for both and I don't know how many people get transferred from one to the other but I think I find that really comforting. I don't think I would have gone into a birth centre that wasn't attached to a hospital. **Yarrow CLU1 (Induced)**

Women who lived in the adjacent city (B) did not consider the birth centre in city A as an option. Some still discussed their positive view on the concept of a venue that represented somewhere between home and hospital. Rose identified that she 'basically wanted a home birth in hospital:'

I didn't want a home birth on the basis that I wanted to be very close to an operating theatre if anything went wrong. Ultimately I do believe that birth is something that is normal, natural and that ... the more clinical you make it, it becomes a self-fulfilling prophecy, interventions don't work as intended, or cause secondary complications and worse. **Rose CLU2 (Induced, C/S)**

6.3.4 The influence of experience

After giving birth in the local hospital, Gardenia explained that she would consider other venues for a future birth because she was now experienced. She had more confidence in her body and the process of birth and therefore more certain that birth in a different location would work out for her:

When you've had more than one and you've had that experience of it being ok. You would perhaps feel more confident about a different location? **Gardenia CLU2**

Cassia learnt about having a home birth through a home birth support group. Similarly, Jasmine accessed a home birth support group. She described her attendance at meetings as a slow process of aligning herself to a new set of beliefs about birth to those she held previously as a health professional:

You meet people who hold this view and have a positive view on birth, that all rubs off on you and slowly over time, all of that changes how you feel about it then and

not because someone else said it, so you think it's OK, but because you kind of become a lot more informed. Just realise things so then when it comes to giving birth you feel in a completely different place. **Jasmine H.J (Water)**

Knowledge shared in these groups normalised home birth as a choice for Jasmine and Cassia. Cassia used the experience of others as a resource while planning her home birth: 'I'd seen, one of the homebirth group had put their water birth video up online and they had a *sarong* I was like "brilliant" I'll go get a sarong [*laughs*]!'

Nikko was particularly reflective and informed, and thought about aspects of the birth space, such as her spiritual connection to the spatial context, which most other women did not mention. She particularly wanted her choice of birth at home to achieve her aim of giving birth without medical assistance or, as she saw it, 'interference'. Her regular engagement with local midwives during her pregnancy was because she knew concealing a pregnancy was illegal. She envisaged her boat as a protected birth space without midwives present and did what she needed to do in pregnancy to achieve this:

I went and had antenatal care with them [*local midwives*] because I **didn't** want to be charged with concealing a pregnancy or social services turning up because I was free birthing. But I'd been told that [*City A*] were very good at respecting women's choices no matter how far out of the box they were, so I was testing that really. I didn't totally trust it the first time round but I did the second time round because they were brilliant. **Nikko H.N**

Experience of birth modified some women's views on a safe birth venue (similar to Jasmine in Section 6.3.2). Prior to her unplanned home birth, Lily felt 'quite strongly that [*birth*] is medical' and safest in hospital: 'Yes for me, before birth it was medical and I needed to be in hospital and I wouldn't have felt comfortable at home in that's not what I pictured at all.' Others found experience made their views more "fixed", especially if, like Yarrow, they had two similar experiences. Having two medicalised births, she could no longer consider a birth centre or birth as something "normal":

I think had I been able to use like a birthing centre, had I been able to use something which was less medical. I might have viewed it as being ... more [*that birth is normal*]. As it happened both my children were born in a labour ward with all the stuff around it. **Yarrow CLU1 (Induced)**

6.3.5 The influence of prior exposure to a venue

Cassia, Jasmine and Daphne all identified prior exposure to the local hospital as a factor in their choice of home. Daphne considered booking for birth at home earlier in pregnancy but her husband had been 'far too fearful.' They attended antenatal classes with a tour of the labour ward. The negative attitude of staff towards men as birth partners surprised them both and at 36 weeks of pregnancy Daphne booked a home birth:

We'd had such a wonderful pregnancy, and once we'd been to this 'active birth' class and *[husband]* had been given such a lot of stick. *[He]* realised that it's our baby and we'd got that far together ... If we wanted to protect that togetherness it needed to happen at home. **Daphne H.D (Water)**

Their baby was conceived by in vitro fertilisation (IVF) so they had plenty of prior exposure to the same hospital to receive a lot of repeated medical interventions to conceive: 'all these crappy ... things that happened to get to where we are.' After experiencing a highly managed process in the control of other people, she wanted to have the self-control that giving birth at home offered.

Cassia went to the labour ward during her pregnancy to collect blood test results. She was struck by the noises of other women and equipment. This experience confirmed for her that she needed somewhere without these distractions:

We sort of sat there for forty minutes: heard about three births. But too, it was the *beating* of the machines and the clattering of doors that put me off more than the guttural screaming that was going on in some cases! It just seems a bit ... frightening to me. **Cassia H.C (Water)**

Jasmine identified that women often made several antenatal visits to a hospital before arriving to give birth. She interpreted that this exposure encouraged women to see birth as risky:

I think the hospital does *[make you think about risk]* because you go there along the way don't you? So you start to see different bits of it and you're having scans and things to check if stuff is OK or not, because sometimes it is not OK, so it is risky. You're going in and out of that setting again, and again. **Jasmine H.J (Water)**

6.3.6 Categories of rooms

Most women became aware of a system for categorising women as high or low risk through visits organised as part of antenatal education, and they understood that midwives used this system to allocate rooms in hospitals:

When you go and have a look around, although it's nice that you go have a look round it, you see what it's like beforehand. You go into ... there are lower risk and higher risk rooms so that kind of reinforces the idea, and in fact that stayed with me the whole time. **Jasmine H.J (Water)**

Women described room types often in contradictory language: 'medical' high-risk rooms described as 'normality', also aspiring to be in the 'nice' low-risk rooms where they thought a normal birth was more likely. Women had personalised interpretations of the meaning of a 'normal,' 'natural' or 'medical' birth.

Women's exposure to a categorisation of rooms varied with birth venue. For example, women had a clear understanding that there were two categories of rooms at CLU2, gained from the antenatal tour:

I'd been to the hospital for like, an evening on an active birth class, where they gave you a tour of everything. So, even before ... they'd shown us round, they'd taken us up to the delivery suite and they'd shown us a normal delivery room, a kind of medical delivery room, and then they'd shown us two active birth rooms, one that had a birth pool in and one that didn't. And they'd shown us **both [my emphasis]** and they were really very different. **Gardenia CLU2**

Women interpreted all the labour ward rooms at CLU1 to have a similar high risk category compared with the low risk birth centre rooms (ABC). Heather described her interpretation of how these categories broke down further according to the room position on the ward:

And they said, when we were doing the tour beforehand, there are, even though you are in the labour ward, you are higher risk but there are low risk, high risk and there are high risk, high risk. **Heather CLU1 (Induced)**

Women going to CLU3 seemed unaware that birth rooms might be categorised according to risk factors. This may be a factor of how antenatal education and a tour of the ward are conducted in the CLU3 spatial context.

Prior exposure to the different room categories influenced women's responses to their room allocation in labour (discussed further in Chapter 8). For example, Heather believed her room was a 'high-risk high-risk' room. Jasmine felt that antenatal tours explain the spatial layout of a ward in terms of how well a woman is doing in labour:

You're shown that you will be in different bits of it depending on how "well" or not, your labour is going. How safe or not it is. **Jasmine H.J (Water)**

The idea that a certain room is better than the others, also seems to originate from information provided during tours, especially at the ABC and CLU2 and especially for rooms containing pools:

When I went for my tour round they showed us a really posh delivery suite with a big bath and mood lighting en suite and it looked lovely, like a spa. Keep thinking, "I can imagine myself in this." It will be alright, I could cope with this. **Kerria CLU2 (Induced, forceps)**

I remember thinking it looked like a spa when you walked in, and thinking "God, this is **exactly** what I want." I just wanted to go in **this space**. **Heather CLU1 (Induced)**

Some women, like Kerria and Heather above, build up a mental image of themselves labouring in these particular rooms:

Well we'd seen, we went to see the birth centre before she was born because we went on, they call it a "stork walk?" Which was really nice we were impressed with the facilities and all what they had ... and then my ideal was, I wanted to have a water birth on the birth centre. **Briony CLU1 (Induced, C/S)**

The expertise and medical equipment that was available in a hospital, especially in the medical rooms, was reassuring for many women when they visiting during an antenatal tour. Prior to labour some women considered that birth could be more risky in midwife-led rooms or at home. Feelings of reassurance from the room layout changed when a room was experienced in labour (rather than viewed in pregnancy). The low-risk midwife-led

rooms were reassuring and anxious thoughts about the baby and type of birth were more common in the medical rooms (see Chapter 8). When considering birth as risky, many women considered broad general risks, mainly to the baby, rather than what the risk would for them in their personal circumstances.

6.4 CHAPTER SUMMARY

Early in the interviews, women felt the need to explain the factors that influenced their venue choices even though this was not an interview question. A reason for why choice is important to discuss may emerge from its elevated position in policy documents (for example, National Maternity Review, 2016). It is recommended that midwives initiate an early discussion of birth venue in pregnancy to assist informed decision making (Madi & Crow, 2003). The interview behaviour may also reflect that women are primarily concerned that their decision will be perceived as rational by their peers (Coxon et al., 2017) and I may have been seen as a peer.

The thesis findings resonate with Wood et al.'s (2016) birth centre study: experiencing the physical space is a significant factor in decision-making in relation to selecting a birth centre, with women positively rating midwives' decision-making practices in birth centres. The findings show that choosing home birth is often a response to an event in pregnancy, or a previous birth experience (similarly to the conclusions of Kontoyannis and Katsetos (2008) but in contrast to Coxon et al. (2017) who conclude that there is little evidence for this decision-making response).⁶⁷ Access to the potential spatial context prior to birth also influences selection of other venues and significantly is a factor in *not* selecting a birth venue (in the case of women choosing home birth after a hospital visit).

Evidence-informed evaluation of safety and risk appear to be a lesser factor in choice of venue than perceived risks learnt from friends and family experience (Coxon et al., 2017). A large number made a 'non-decision' (Houghton, 2008) of going to the local hospital. Planning birth in hospital is seen to be 'the normal or "default" option' for birth (Coxon et al., 2017, p. 104). Deciding upon a home birth often took time with most women only confirming their intentions with care-givers late in pregnancy (Langley, 2007). Home birth mothers accessed social networks of friends and family in order to formulate birth plans and select support during labour, more so than for hospital birth mothers (similarly to other

⁶⁷ The sample size of thesis means this would need further research to substantiate the impact of events in pregnancy on decision-making.

studies: McClain, 1987; Sanders and Crozier, 2018). Women express notable positivity in their decision-making for the birth centre that appears to emerge from the Birth Centre's "opt-out" policy.

Many women reflect on their individual circumstances and seek certainty over being in their venue of choice through their pre-labour decision-making. Different women see different venues as the safest or most appropriate place for birth. Some understand a hospital venue to offer certainty because it offers all the facilities and staff they might need. Others view home as offering the best option for self-controlling what happens during labour and birth. For a number of women, especially those who gave birth at home or in the ABC, the choice to do this was 'an expression of one's ideology' (Wood et al. 2016, p.15).

Many women recognised different categories of rooms in different venues through exposure to these venues during antenatal education. (Chapter 8 explores further, women's interpretation of their assigned rooms during labour). A woman's interpretation of a birth venue often started with a pre-labour visit as part of early pregnancy screen, for example for a 12-week ultrasound scan. Most women had repeated exposure to the same birth venue through antenatal education visits, then the actual birth⁶⁸. Thus, spatial practices related to birth spaces are not confined to the short period of time surrounding the birth, and early embodied experience of such spaces impact on behaviour and the perception of space during birth, as discussed in Chapter 7 that follows.

⁶⁸ Also, through time spent in postnatal wards, which was a time-period not explicitly covered by thesis aim.

CHAPTER 7

WOMEN'S REPRESENTATIONS OF SPACE

7.1 CHAPTER OUTLINE

The women's birth stories communicated their spatial experience in distinct ways: visually, through what they had seen; physically, in what they had touched; through their level of mobility in a space; and through peoples' spatial practices. A summary table of the women's drawing styles and the information represented in their drawings is provided in *Appendix D* [D.1]. This chapter considers how women represented birth spaces and considers how such representations can give insights into the meaning of architecture (Section 4.2.3)

7.2 THE PORTRAYAL OF ROOMS

7.2.1 Introduction

The main starting point for drawing was to draw a rectangle for a bed as a spatial reference point to orientate from and draw the rest of the room. This was the case even for women who spent little time on the bed, for example, *Figure 7.1* illustrates Oleander's drawing sequence of her birth room which followed this drawing process. When women described lying on the bed they did this verbally. It was uncommon for women to depict themselves on the bed in a drawing (*Figure 7.2* shows three drawing examples). A small number added a stick person to the bed to represent themselves. Briony described her small birth room as 'for the bed' since the bed restricted the movement of everyone in the room:

That's a shame [*the size of the room*]... but it was more for the bed, there wasn't very much room for them [*birth partners*] to go out, and getting in. They felt they were getting in the midwife's way really. **Briony CLU1 (Induced, C/S)**

The point at which most women described their posture for birth or on the bed was in response to looking through the *Picture stickers* provided; suggesting this was not a significant part of most women's spatial experience.

The contrast between representations of people versus furniture is greatest in the drawings of operating theatres. Women drew a large rectangle for their position and then thoughtfully recalled the position of other people in the room. They expressed confidence in where people were located. Briony's drawing (*Figure 7.3*) clearly shows this representation of space through the position of people.

Figure 7.1 Oleander's drawing of her birth room with the bed as the reference point

Oleander's drawing of the birth room. Left: she started to add furniture to the room outline by positioning the bed, even though she spent little time there and only lay down on it after the birth. Right: The drawing just before she started to place stickers.

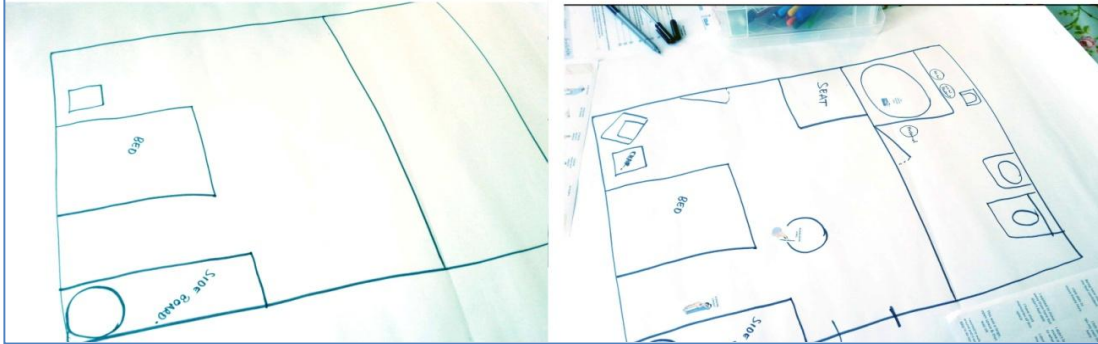
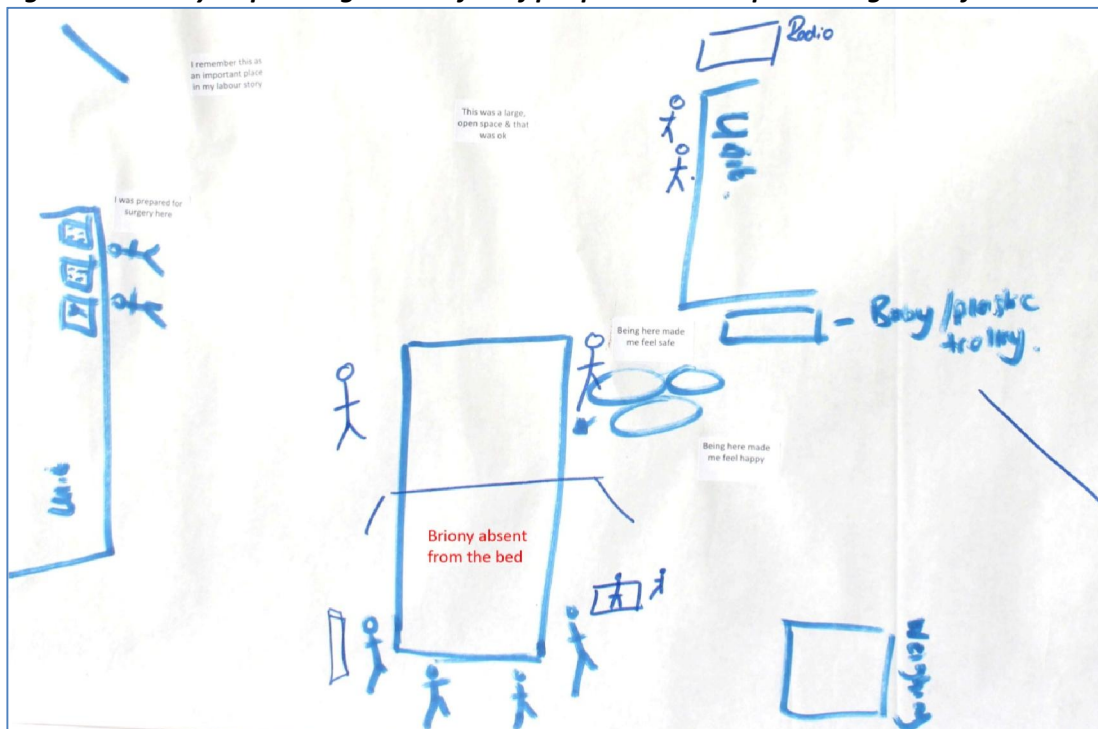


Figure 7.2 Examples of the bed represented by a rectangle without a person



Figure 7.3 *Briony's operating theatre full of people without representing herself*



7.2.2 Seeing the room from a bed

Women's spatial experience of a room was from a bed for a variety of reasons. It was common for women to initially get onto the bed after entering the room:

I was on a bed, it felt like that's what they wanted me to do? Well it's almost what they suggested, because what they did, they made me lie on the bed at the start. **Urbinia CLU3**

I think when we got in there they just checked that the bed was working and I got straight on it. **Encina CLU3**

Most women understood the bed as the space in room where they received care and had contact with the midwife. Rose discussed the bed as only for the woman:

Well now, because he is a nurse [*her partner*], I know that the bed is meant to be kept sterile? So other people sitting on the bed, is actually **an infection risk. Rose CLU2 (Induced, C/S)**

It was common for women to remain on the bed following a medical intervention: Briony, Heather, Kerria and Rose were all induced and remained on a bed after this process started.

Some women actively avoided using the bed when they arrived. For Sage, it still became significant in her story as the focus of where she interacted with the midwife:

It was only when the midwife appeared and had to do something medical that I would come anywhere near the bed for the first few hours. **Sage CLU2 (Induced, forceps)**

Sage made a 'protected corner' (discussed later in Chapter 9) which she left for monitoring, examinations and to talk with the midwife who adopted a position at the foot of the bed:

I mainly, I waited in there, yeah I waited, that was my little waiting corner (...) [*I was waiting for*] labour to happen yeah, I was doing that ... that was like our little corner I liked to sit in before they were like, 'get on the bed and we'll measure you' kind of thing. **Sage CLU2 (Induced, forceps)**

A number of women concluded that staff had prompted them to use the bed. Those who did not identify their position on the bed, instead using other furniture, felt their actions were questioned by staff, as Lily explains:

Some of the nurses thought it was odd because sometimes [*her partner*] would be laid on the bed and I would be sat on the chair. So I said, 'I'm sick of laying or just sitting on the bed' let him lie on the bed. **Lily H.L (Unplanned)**

Heather was highly mobile in early labour, walking in the corridors and stairwell. She explained this was her way of regaining control after the start of the induction procedure on the antenatal ward:

I'm going to take back some, gain some control over this situation. So you're not going to put me in a room and I'm not going to stay in there. **Heather CLU1 (Induced)**

Over time, lying on the bed became physically easier for her. She received two intravenous infusions (drips) and more monitoring equipment; she felt literally ‘attached’ to the bed:

I didn’t have time to use it: I had two drips, I couldn’t get there and back between contractions. Pretty much once labour had got established, it was bedpans. At one point I could get up to sort of there [*indicates close to the en suite door on the drawing*] and the midwife would move one of the chairs round and put it on the chair for me. That took a lot of effort and I thought I’m just going to have to go for it.

Heather CLU1 (Induced)

Similarly, the position adopted by the midwife coupled with monitoring equipment next to the bed led Sage to feel ‘I was attached to the bed at one point and they wouldn’t let me get up.’

Some women felt most comfortable lying-down, but also knew it was helpful to remain upright in labour through their antenatal education. They felt a sense of awkwardness about lying-down as their response to labour:

I didn’t want to move around or anything, I was the same with [*older child*]. I did the [*private antenatal*] course, and they tell you to move around and I didn’t want to move. I was just in a zone where I thought it would be kind of uncomfortable to move. They did suggest different positions, but I relatively quickly got on the bed and wanted to stay there. **Yarrow CLU1 (Induced)**

As labour progressed Encina felt most comfortable lying on the bed. She felt that the midwife had judged her behaviour:

She said I was being a bit lazy. I needed to get up and [*laughs a little*] push a bit harder. [*her daughter shouts “lazy bones!”*] I don’t know she actually said lazy bones but that’s what I *think* she meant. **Encina CLU3**

Women who spent most of their labour lying on a bed represented the space in visual terms and those things in their line of sight were remembered most clearly.

7.2.3 Drawing the view from the bed

It’s really weird thinking about your view of the room just from being sat on a bed, then I were lying down on the bed, not moving round it. I suppose [*birth partner*] has got a very different view of it, because she was much more mobile round the room.

Kerria CLU2 (Induced, forceps)

Kerria’s drawing sequence demonstrates her words (*Figure 7.4*). She positioned herself on her living room floor and rotated the paper so she could start drawing as if looking out from the bed. Similarly, Heather positioned herself to one side of the drawing (*Figure 7.5*). She later realised this was an implicit attempt to draw her view from the bed:

I did the top [one of the drawings] as if I was in the room, this way up. I wanted to draw it as I can see it, but now that seems quite passive.

Sarah: Because you were on the bed, you were drawing it from that position?

Yes. **Heather CLU1 (Induced)**

She described this as a ‘passive’ use of the room. Heather chose to also draw her ideal room. She rotated the paper and imagined she would look towards the bed in her ideal room. Several women re-orientated the paper during the drawing process in order to

position themselves as if seeing the room from the position they had adopted at the time of labour. Sage began her drawing as if viewing the room from the bed⁶⁹ and rotated the sheet to draw her “base” behind the door (see Chapter 8).

Figure 7.4 Kerria's room (annotated with her drawing position and her view)

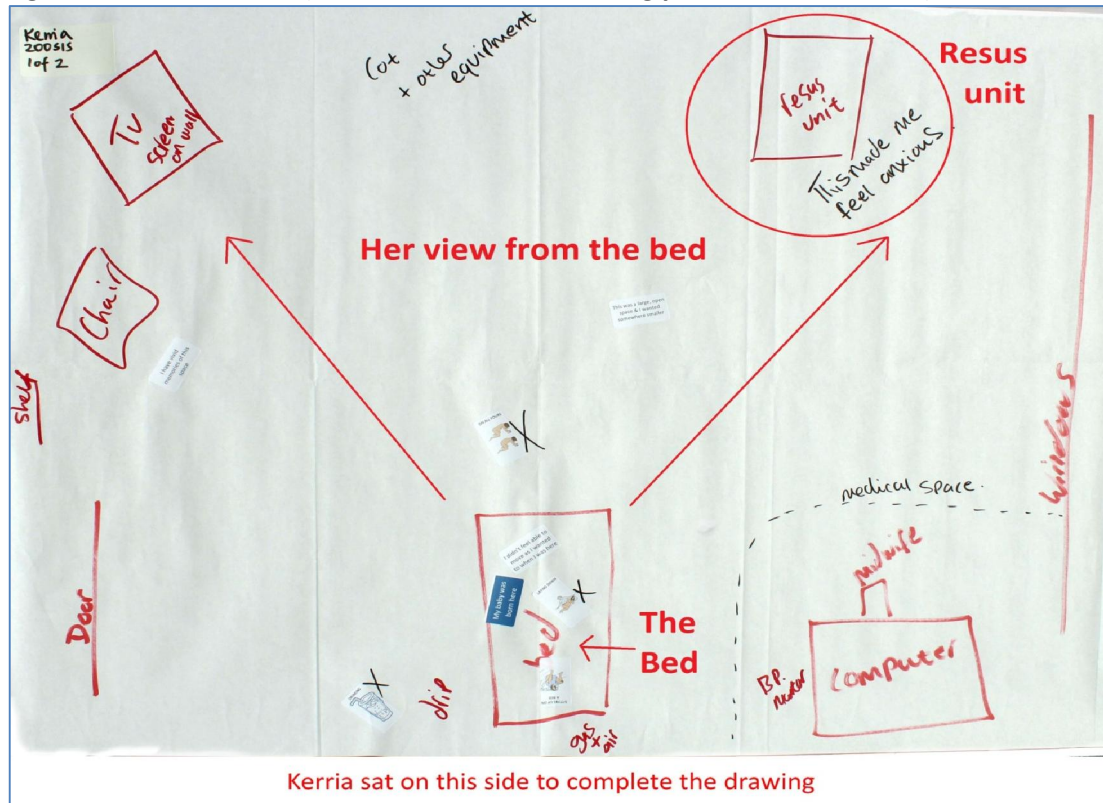
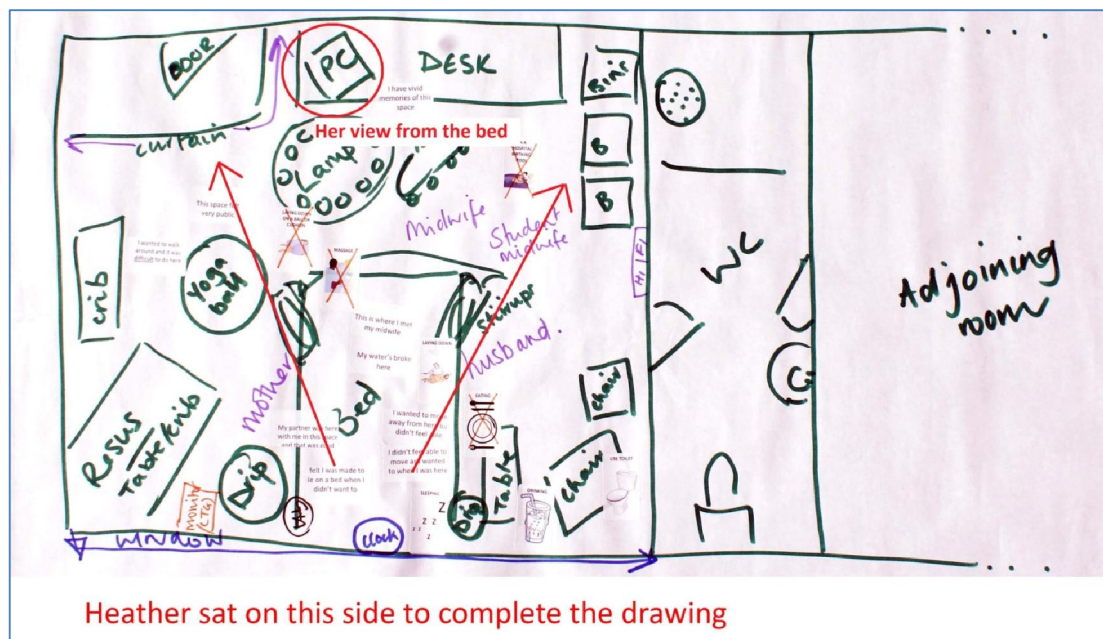


Figure 7.5 Heather's drawing position and her view from the bed



⁶⁹ She drew the view from the bed first since she recorded her location in the room in reverse time order.

7.3 THE ROOM AS A VIEW

7.3.1 Introduction

Static, supine women (usually on a bed) either: drew and described the people in the room (for example in an operating theatre); or had a clear recall of the objects around the room perimeter (for example in a birth room during an induction).

7.3.2 A landscape of people

At the moment of birth, there were many people in Iris' birth room (Figure 7.6) and she described this as an 'interview panel: 'Yeah they were all on one side it felt very much like I was on a panel [laughs] having an interview!'. She did not draw the walls of the room; she only remembered the window behind the row of health professionals and the bed that acted as a barrier between her and the other people. In other words, she remembered the room features that were part of her view during interaction with the people in the room.

Figure 7.6 Iris' 'interview panel' drawing



Smaller birth rooms can accommodate fewer people, increasing the sense that the space is represented by the people present. Briony described her birth room as small and the presence of just a few people made it feel 'full':

You know when they do the round and they come and chat. There's about six people, because of the surgeon and the head of the ward ... all sorts of people, at one point there seemed to be everybody stood round here and nearly out the door.
Briony CLU1 (Induced, C/S)

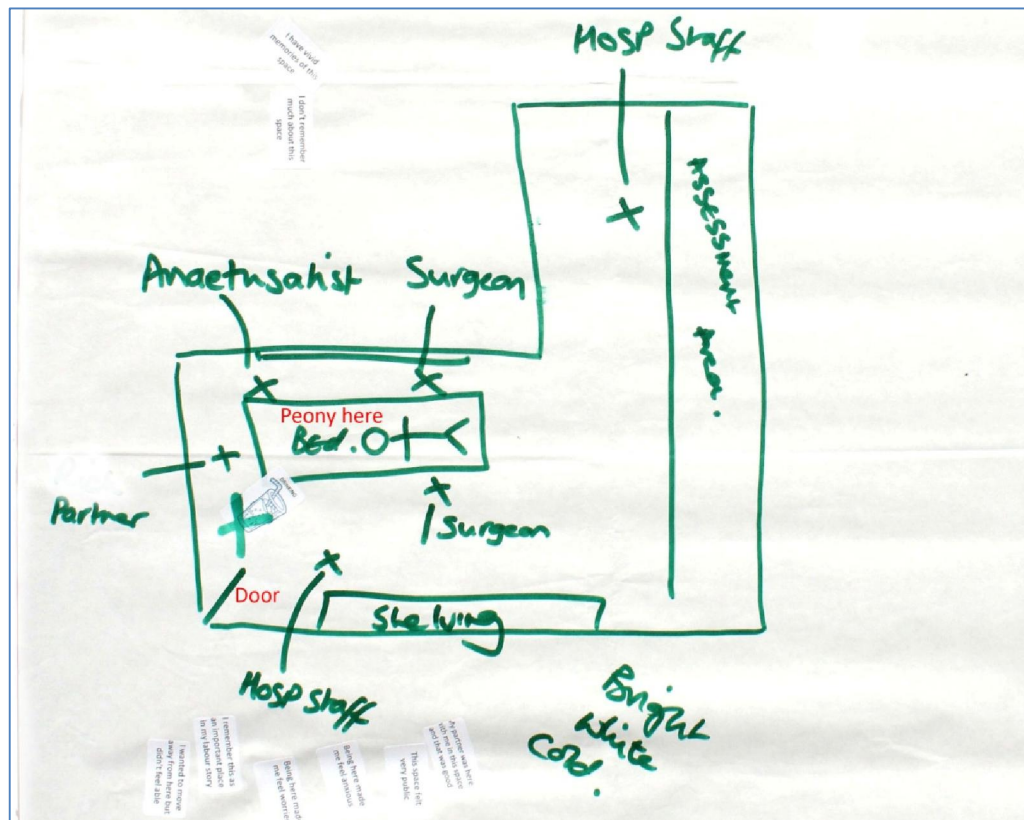
As a room type, the space of operating theatres was always represented through the positions of people. Their spatial relationship to a woman was defined by drawing the bed first: Briony (Figure 7.3), Peony (Figure 7.7) and Rose (Figure 7.11). The closest people were drawn first then those further away in the room. It was common to use 'x' to mark a person's position (seen as "set" by most women and label this 'x' with the person's role. Women associated members of staff with the operating theatre rather than the equipment they used:

I think maybe they were part of the theatre, surgery, surgical team ... they **belonged** to the theatre. **Sage CLU2 (Induced, C/S)**

The woman associated herself and her partner with furniture (a bed and a chair). Women could not remember details for the periphery of the operating theatres, Peony explained (and shown in Figure 7.7):

I can remember being laid down and knowing that it went off that way and I couldn't really see what was going on round that way ... couldn't see what was going on past my own feet. **Peony CLU3 (Induced, C/S)**

Figure 7.7 Peony in the operating theatre.⁷⁰



⁷⁰ She drew herself as a stick person on the bed after labelling it, which is why she is low-down the length of the bed.

Women's recall of operating theatres seemed to be affected by the sense of surprise, drama and relief they felt during the final events leading to birth in a theatre⁷¹. Sage explains how the events of the birth and the people attending her are more vivid than the spatial context:

[sighs] you know it was ... it was really weird because they both maybe apply⁷²? Because I have really vivid memories and also when you asked me to do it, I can describe it ... but the whole room, the actual physical geography of the space? No. The memories of what happened to me ... I've got some real key memories of it, quite strong. **Sage CLU2 (Induced, forceps)**

Briony noticed a changing in work atmosphere between the preceding birth room where the decision had been made and the calm of the operating theatre as a place of work:

They were just so calm and it was all organised, obviously they all had their places ... it seemed like a lot of people in there ... and everybody seemed to have a job but nobody told each other what they were doing ... obviously they do it every day so they know where they should be and where to move ... they were always speaking to us ... they didn't really talk to each other ha, ha, ha! **Briony CLU1 (Induced, C/S)**

7.3.3 Seeing the walls

Women drew the details of equipment on the periphery of birth rooms when people did not obstruct their view and if they lay on a bed, static and supine. When lying in the same position for a protracted length of time, they focused on things in their line of sight:

Health and safety type, "wash your hands" posters. **Briony**

I remember staring at the computer screen ... reading the same four messages over and over again on the screen. **Heather**

Kerria spent nearly all of her induced labour on a bed in one room. She gazed at a baby resuscitation unit (highlighted with a red circle in *Figure 7.4*) mounted on the opposite wall: 'I was really aware of the resus unit because ... you can obviously see it's there'. From seeing this, she concluded that staff must be concerned about her baby, and recalled asking herself: 'have they put me in this room on purpose?' Lily also identified that seeing a resuscitation unit for a long time because of where it is position in the room would be difficult:

I understand that they've got the things on the walls, like the resus units ... friends who have been induced ... they're in that room staring at that resuscitation unit and I don't know how they would do it. I understand there is stuff that has to be in those rooms ... but if that's what you're looking at ... that's not conducive to birth, active

⁷¹ No women in the study planned to give birth by caesarean so birth in an operating theatre was always unplanned and the unexpected nature of the experience gave rise to these emotions.

⁷² She is looking at the stickers: 'I have vivid memories of this space' and 'I don't remember much about this space.'

birth that the midwife and everyone is so keen to promote these days. **Lily H.L (Unplanned)**

Yarrow remembered with her first baby that seeing equipment in the room was 'scary,' even though staff explained what it was and that it probably would not be used. For her second birth she knew what the equipment was for, and not seeing baby-related equipment in her room was reassuring. There was:

Just all the sanitisers and a few tubes and things like that, it was storage stuff (...) I remember there wasn't an incubator because [*older child*] had an incubator, he didn't need it but we did have one in the room and they explained to me why there was. [*This time*] I remember there not being one and being comforted by that.

Yarrow CLU1 (Induced)

The midwife's work station and computer were in Heather's line of sight (highlighted with a red circle on her drawing *Figure 7.5*). Heather recalled wanting to see the time on the computer because she was being monitored at 4-hour intervals. Having to view the computer, and also not being able to move and see the clock that she knew was above her head, became frustrating for her.

Highly-mobile women were less aware of the edges of the room and spent limited time in each location and posture they used. For example, Oleander was far less aware of the baby resuscitation unit than Kerria. She moved to the bed just before the birth and faced towards the head of the bed. Quassia, in a similar upright position on the bed, could not remember what was in her line of sight:

I'm now thinking ... was there actually a clock there? [*she laughs*] Because I know that there's also a clock here. Maybe it was a painting? It's about my memory isn't it? Afterwards I must have been able to see it. **Quassia CLU2**

Facing towards the centre

The furniture layout of most hospital rooms directs women to gaze towards the centre of the room. Kerria's (*Figure 7.8*) and Rose's (*Figure 7.9*) drawings show how they faced into the rest of the room, from a position on a bed. Rose felt observed when positioned like this and described where the midwives stood as a 'viewing section.' Neither Rose nor Kerria could control the direction they faced on the bed because of the position of medical equipment around them.

Facing to one side

Women were not always supine on a bed. Sage explained that lying on one side, restricted the view of the operating theatre:

I can remember this bit quite clearly because that's where I was laying and I can remember looking over to see [*my husband*] there, and looking over there and seeing what they were doing with [*my baby*]. I didn't really look into that left hand side. **Sage CLU2 (Induced, forceps)**

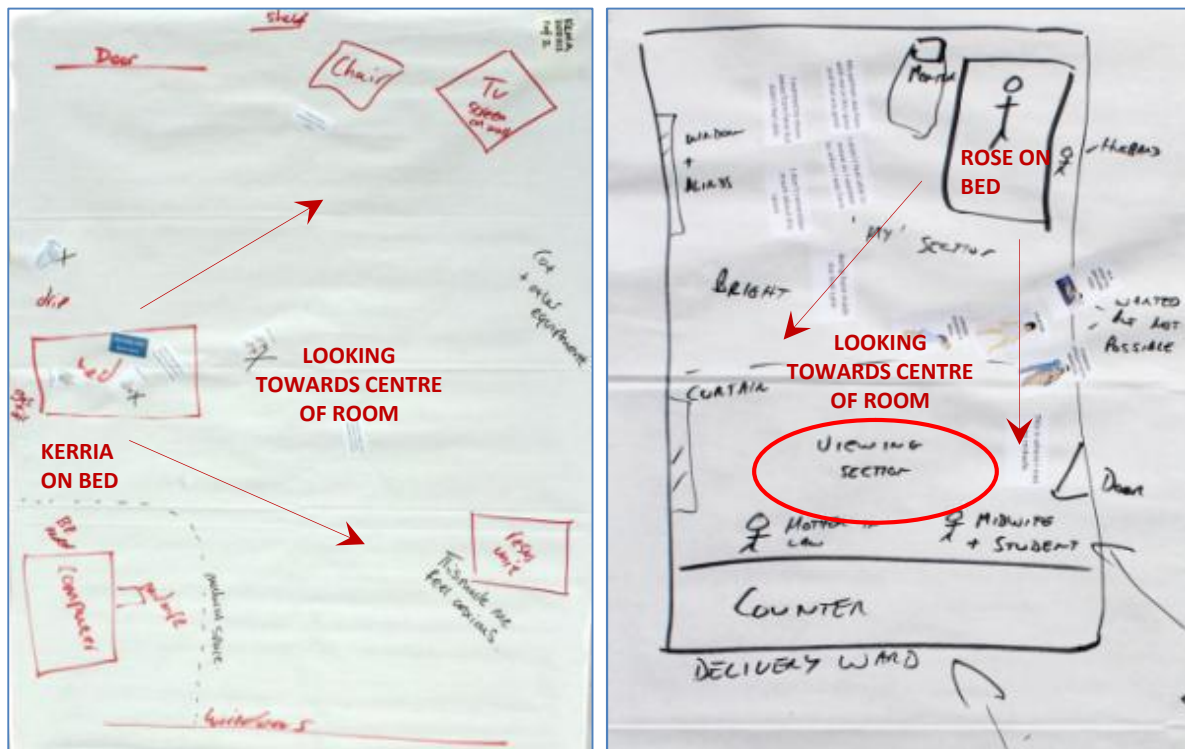
Torenia only remembered the left-side of her birth room before her caesarean birth in the operating theatre at CLU1. The side she could see contained a work area for a midwife:

I was on my left side so I could only see one half of it, it was just a square room with ... it felt cramped, it must have been monitors in there and a desk ... **Torenia CLU1 (C/S, under general)**

At the time, she wondered if this was a waiting room because she could only see the desk and monitors and this was not how she imagined a birth room.

Figure 7.8 (Left) Kerria faced into the centre from a hospital bed at CLU2

Figure 7.9 (Right) Rose faced into the centre from a hospital bed in this room at CLU2



7.3.4 Viewing point and perceived size of the room

Being still and supine appeared to impact on the perceived size of the room:

The bed felt very dislocated from everything else in the room because the room was massive. **Kerria CLU2 (Induced, forceps)**

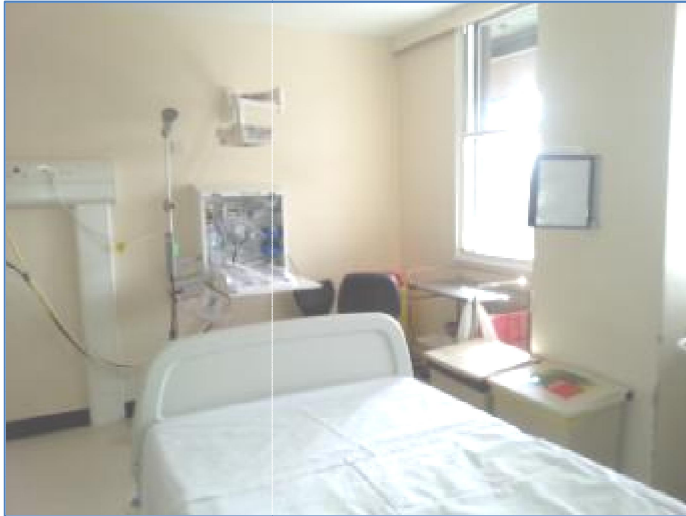
I showed Kerria the plan layout of the ward, and my photographs of her actual room (Figure 7.10). She realised that it was not as large as she thought:

I remember it being bigger, I might be wrong.

Sarah: The photo is taken from the head of the bed ... so how you saw it?

So that's the resuscitation unit. I do remember it being bigger, it felt bigger, felt much emptier. **Kerria CLU2 (Induced, forceps)**

Figure 7.10 Kerria's room: baby resuscitation unit is in the line of sight from the bed



Rose also suggested that the room felt larger when she was supine on a bed:

It did feel too big ... for what? ... maybe it would have been the right size if I hadn't felt so shoved up into the corner and people standing far away. **Rose CLU2 (Induced, C/S)**

Figure 7.11 shows how she drew the birth room preceding the operating theatre as the larger of the two rooms (in reality the operating theatre is much larger). For Rose, the operating theatre:

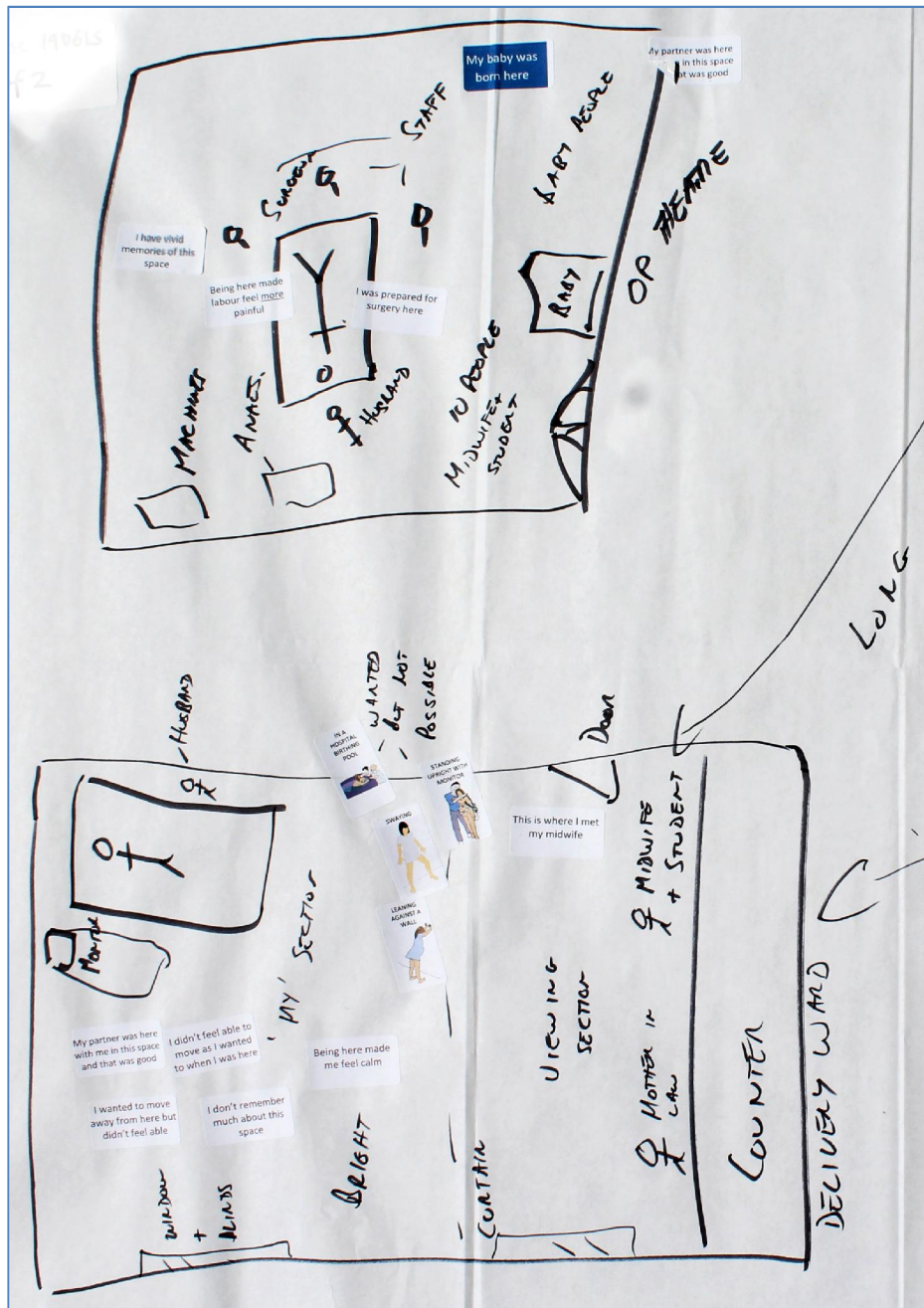
... felt quite small, that's why I've drawn it ... it felt smaller than the labour and delivery room that I was in. So I don't know if that's accurate ... that's certainly how it felt to me that it was very, very enclosed, whereas the labour and delivery room, it felt really big and empty. **Rose CLU2 (Induced, C/S)**

Peony and Briony commented on the large size of the operating theatre, but they had both transferred there from smaller labour ward rooms, so this could have been a factor.

7.3.5 Outward-facing

Women who used birthing pools positioned themselves facing outward. The edge of the birthing pool is useful to lean over and women described a preference for one side of the pool. Women could have leaned over the side of the pool closest to the centre of the room, but they all chose to face towards the walls.

Figure 7.11 Rose's operating theatre and labour ward room comparing scale



Vitex (Figure 7.13) moved around the pool: 'like flipping round and turning,' but still "oscillated" between two positions facing walls. Cassia (Figure 7.12) and Daphne became comfortable in one section of the pool and also faced the wall (Figure 7.14). Daphne faced the wall and her husband who sat close by in dining chair:

I was facing [my husband] and the blank wall really ... I don't why I got in and faced that way at all. I suppose because [he] couldn't sit anywhere else really. So I faced that blank wall because that's where [he] could be? **Daphne H.D (Water)**

Figure 7.12 Cassia facing outwards from the pool

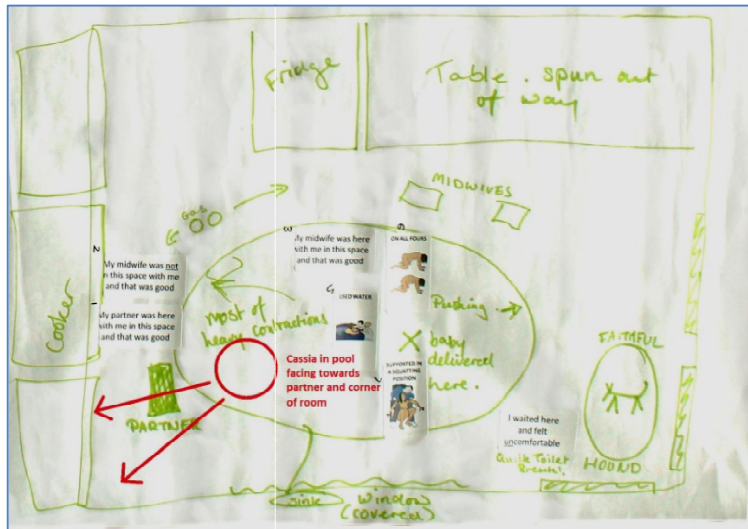


Figure 7.13 Vitex 'oscillating' facing outwards from the pool

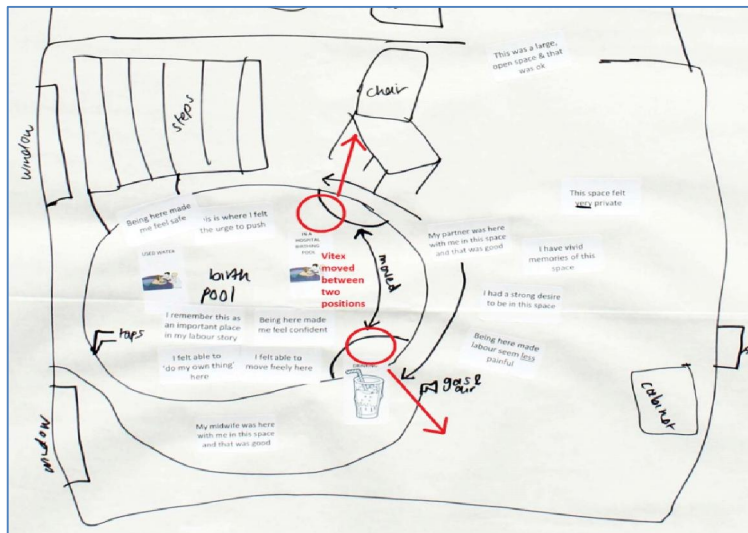
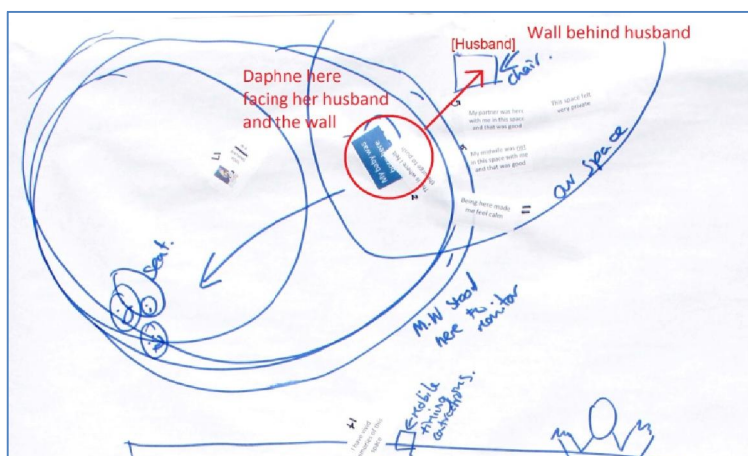


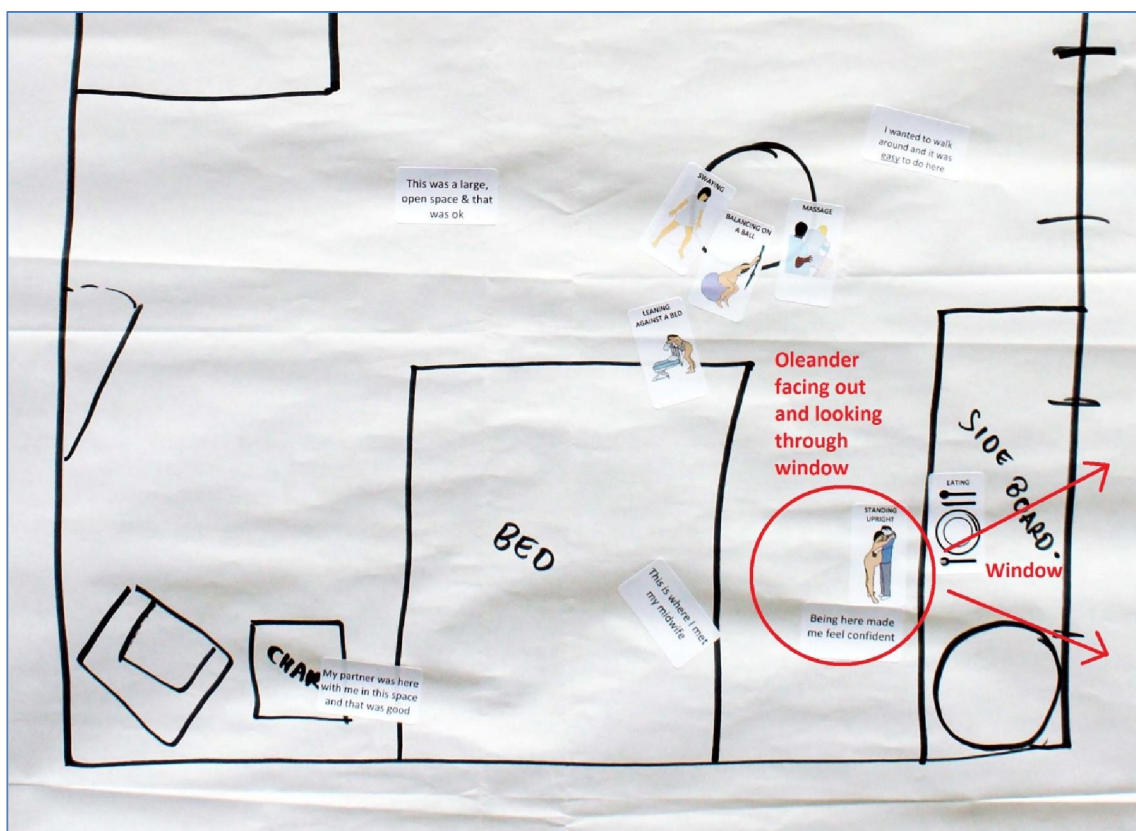
Figure 7.14 Daphne facing outwards from the pool towards the wall



Highly-mobile women, not in a birthing pool, often chose to face the walls of the room, or look through a window to see the “world beyond”. Oleander stood between the hospital bed and sideboard and created a protected space for herself in her room (see Chapter 9). She looked out of the window (*Figure 7.15*):

You're quite high and actually I quite liked that there was something to look at, because I spent some of the early labour leaning over here on the sideboard looking out of the window ... I didn't mind watching the cars parking and coming out, and people were coming to work ... I suppose there were some buildings out there that were about the same level but I never for once thought, “gosh they're looking in at me.” **Oleander CLU2**

Figure 7.15 Oleander's outward-facing position in the room



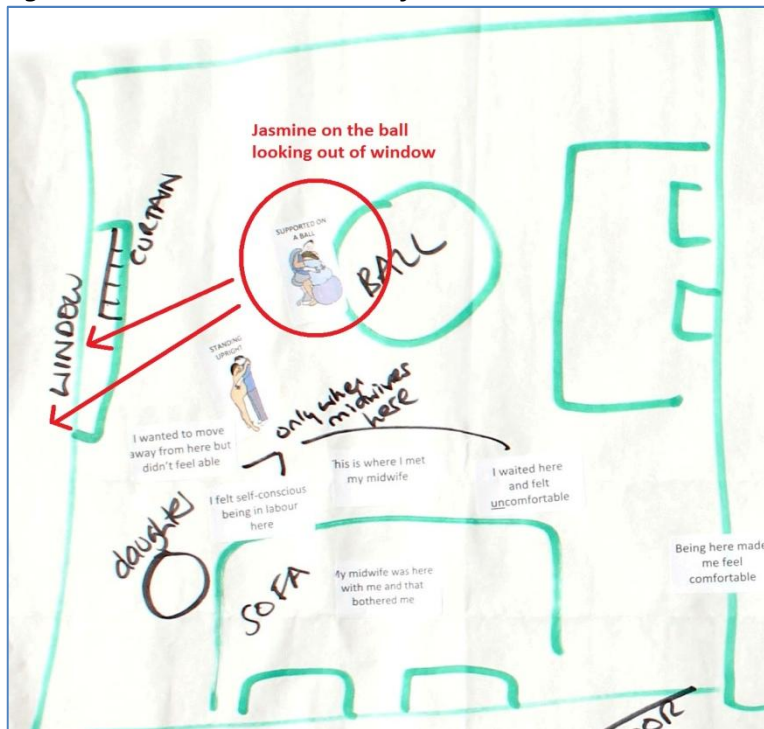
Jasmine purposely sat in the middle of her living room and adjusted the curtains so she could glimpse outside into the front garden but not be seen (*Figure 7.16*):

I could then feel I can see out and see daylight ... it felt important not to have them completely shut and for it to be completely closed as if you're saying this is some kind of thing we should be **hiding**. But you want a bit of privacy ... it was like a balance between the two, it's nice ... you know in between contractions ... just to see that it was still, there's an outside world. **Jasmine H.J (Water)**

Nikko looked out of the hatches on her boat in a similar way:

It was quite nice to have a view actually ... the view out so you'd be having a contraction but not be facing a wall right in front of you. **Nikko H.N**

Figure 7.16 Jasmine looked out of the window



For Nikko, Jasmine, and Oleander a distant view through a window was a helpful distraction. Windows in hospital were hidden by blinds and women did not use them as readily as at home to connect with the outside world:

The windows ... I think were there but they had blinds. **Rose**

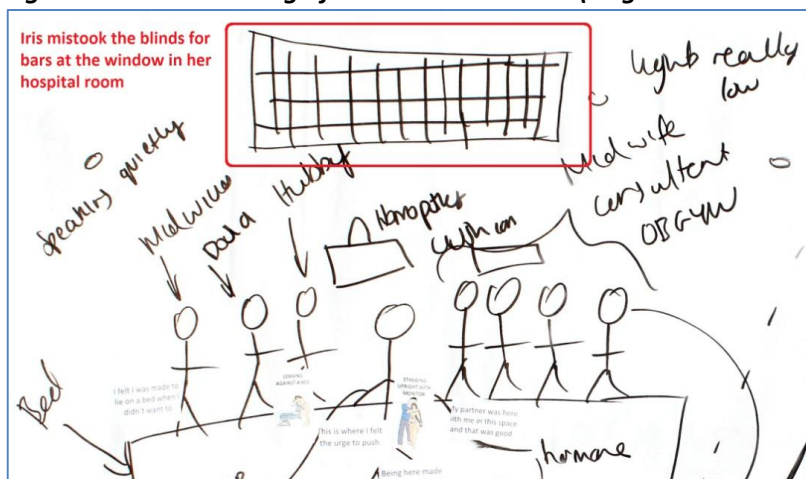
Blinds, I wouldn't have been able to see through those blinds. **Vitex**

It was the middle of the night ... there was a window, it didn't make me feel overlooked ... but pretty sure there was blinds maybe. **Yarrow**

Iris mistook the blinds in her room for security bars, shown circled in *Figure 7.17*:

I would have liked it if the window was a bit more visible but it had bars on it. You know those old NHS, school ones. So you kind of feel like being in a bit of a prison [*and later in the interview*] in the photos it looks like there weren't any bars, I don't know what that was about! I just created the bars. **Iris CLU3 (Unplanned hospital birth)**

Figure 7.17 Iris' drawing of bars at the window (larger version in Figure 7.6)



7.4 PEOPLE IN SET PLACES WITHIN THE ROOM

7.4.1 Introduction

Through drawing people as pieces of furniture, for example a chair or bed, women demonstrated their understanding that the furniture layout to imply designated locations for people. This occurred particularly for static woman with restricted movement through induction or the limited space in a curtained bay.

A bed, a monitor and a chair were often the first items drawn in birth rooms with the most common combinations of people and furniture as 'a woman on a bed', 'midwife using equipment' and 'partner sitting on a chair'. In any hospital room, people tended to have a set position to which they returned to after any movement within the room. The bed had a core function in dividing a room into 'sides':

That was very much the midwife's side, she did come round here a couple of times, only to check the blinds and put something that made me a bit more comfortable ... then they [*her husband and mum*] never came anywhere else, they were just on this side. **Briony CLU1 (Induced, C/S)**

Thus, the spatial experience of a woman on a bed is a room divided into two parts, with the bed separating the midwife from the woman's supporters:

He was always at this side [*points on drawing*]. Yeah the midwife was on this side and he was there because he kept holding the gas and air tube for me when I didn't need it. **Encina CLU3**

Me mum, she was definitely on this side and the midwife stayed on that side. **Gardenia CLU2**

It was common for women to wait in a curtained bay when first arriving in hospital, either for initial assessment in labour or for medical induction (Chapter 8). Women were unsure how to use the space in curtained bays and felt the furniture restricted their movement and comfort:

I remember once moving the bed over, kind of moving the bed over, just to move it a little bit and I really felt like I was pushing the curtains to next doors ... you know that kind of thing ... because I wanted to sit on my ball. **Yarrow CLU1 (Induced)**

You know, my mother-in-law, I don't know how much time she actually physically spent there but you know, it's not unusual to have more than one person with you in labour these days so why? Then it felt almost like a game of Tetris when the midwife would come in to check on me, somebody had to move you know. **Rose CLU2 (Induced, C/S)**

Most women did not think it was possible to change the layout of these spaces:

It felt really cramped because there wasn't a lot of room. Maybe if it had been like 30cm on either side of the chair, between the bed and the things, so you can imagine a ball in that space was really snug. You couldn't really move round properly so I ended up ... call it bouncing or lying when I was on it ... it felt very stuck and unable to move ... like the furniture ... the bed couldn't move and that's how it was, that was rigid, that's how the room had to be. **Urbinia CLU3**

Other women also perceived hospital furniture layouts as fixed, Lily said:

I got the impression with the hospital rooms, it's **harder** to move things to where you want them. You're going into a very full space. **Lily H.L (Unplanned)**

7.4.2 Midwife focused on equipment

Women associated the midwife with a desk or computer screen and this also identified the midwife's section of the room for many women:

What they didn't tell me was that when you're in labour now of course, the midwife sits facing the desk and just types away and intermittently comes over and prods you ... between the desk and the CTG, very much that was kind of where she was. **Peony**

The first midwife was very much doing at the desk. **Heather**

The student midwife did stay near the computer and putting in readings. **Urbinia**

... that was her space that cabinet and computer. **Kerria**

Women drew squares to represent a desk and chair, a computer screen, or a CTG⁷³ monitor, and labelled this with 'midwife.' Women considered it was part of a midwife's job to focus on a screen or observe readings from equipment:

Yes she wasn't very far away, the computer must have been *[marks on drawing]* she did have to keep moving between me and this computer. She couldn't look at the computer and be with me, she had to keep moving back and forth between. **Kerria CLU2 (Induced, forceps)**

Women knew that their labour progress was shared with other health professionals through the computer system and this conveyed a sense of being watched. Kerria imagined unseen doctors talking through her labour progress and that people watched her on the other side of the wall:

The midwife, she explained that doctors could see the monitors *[from]* outside the room through the computers, so they could see what was going on. I didn't mind but I was kind of curious as to where that was and who was looking at that ... move aside this wall and who was watching what was going on? ...it did feel big brother that somebody, some doctor was looking at what was going on without actually having met me or he was just looking at my blood pressure or his heartbeat. He'd not come into the room and had conversation with us. **Kerria CLU2 (Induced, forceps)**

Peony described herself as 'just a body' being monitored:

She'd gone out a few times because she was getting other people's opinion on the charts, so I see other people come in and they were just having a technical conversation about what they'd seen. That's how it felt, I was just a body. //SJ: *(through machines)* Yeah. I was just a body, I was the one that they were watching you know. **Peony CLU3 (Induced, C/S)**

⁷³ A Cardiotocography (CTG) machine is used to monitor both the foetal heart and the contractions of the uterus. Two 'belts' are attached to the machine with wires and placed around the woman's bump and records data on a roll of paper.

The screens and monitoring equipment exercised control over a labouring woman. Many women felt their movement and decision-making capabilities were restricted when monitoring equipment was used on them. Unseen people whom women did not meet or converse with decided on a women's care.

7.4.3 Partners sit on chairs

Women drew a chair to one side of the room and labelled it as their birth partner:

There was a chair here, just a little plastic chair that my husband sat on. **Oleander**

I just remembered ... for the partner the chair. **Mazus**

So there was a chair there ... this was me on the bed ... the monitor ... and a husband. **Rose**

Like a token chair, because I think my husband got to sit down. **Willow**

The bed was maybe about there right in the middle and then a little chair in the corner and that was where my husband sat. **Sage**

The spatial layout of hospital furniture seemed to separate people and make close physical support difficult within most rooms. Sage noted that her husband sat in the corner, while she was more central in the room. Staff questioned Lily about her husband using the bed, when she used the chair (Section 7.2.2). Assumptions about who should use which furniture were also evident in most hospital rooms (not only those with an obvious chair-bed-monitor layout).

In a curtained bay on a ward, a delivery room or an operating theatre, it was common for a partner sat on a chair. Briony noted that she close physical contact with her husband and her mother in the ABC birth room but in the CLU1 birth room:

There was two chairs ... my mum sat there [*and husband*] sat there. There was lots of sitting in here because there wasn't much room to do much else. **Briony CLU1 (Induced, C/S)**

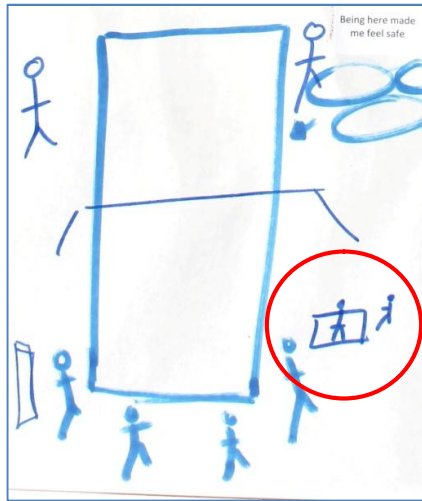
Similarly, Lily thought chair locations in a space implied her husband needed to wait separately to her. They found this difficult:

The worst bit for both me and [*my husband*] were the seats as you come up to [*the maternity assessment unit*]. They asked me to do a urine sample and it was like, "oh and you sit over there" to [*husband*] any time we were in hospital. We had a few extra scans and things, he was always ... "and you sit, you go over there" **Lily H.L (Unplanned)**

Briony drew her husband in the operating theatre as a stick figure on a chair with a midwife seated behind him (*Figure 7.18*). When he first met his daughter, Briony related the memory to this chair:

I held her for a little while and then they were fiddling around and doing stuff, so [*husband*] had her on a little chair here. **Briony CLU1 (Induced, C/S)**

Figure 7.18 The position of Briony's husband in the operating theatre



In a hospital context, the availability of a chair tended to lead to less active or physical support from a birth partner, as Yarrow recalled: 'he just sat, he mostly stayed in the chair.' Some women preferred less close proximity. Quassia, and her husband, liked that they could be separate and come together again when she wanted (Chapter 9): 'Then my husband was over here and he just kind of sat on and kept out the way until I said, "please come over."'

Chairs could enhance close physical support at home. Daphne drew her husband as a "square" dining room chair next to the birth pool:

So I was here *[draws oval shape in birth pool]* that was me and then my partner was sat on a chair here *[draws square for dining room chair]* and I held on to the edges of the birth pool there and *[he]* held my hands there *[shows me on drawing]*. **Daphne H.D (Water)**

Lily reflected that when she was with her husband at home he did not sit down at all:

When we were in the ward, there was a seat for him in the corridor and a seat in the bay for him to sit in. That was his spot ... to sit in the seat. Whereas at home, I don't think he sat down the whole time. He was with me, laid on the bed with me and around me, not sat on that chair out of the way in the corner. (...) By drawing it out, made me realise ... how at home I could see *[my husband's]* face the whole time, but in hospital we were more separated. **Lily H.L (Unplanned)**

Urbinia's active birth room had many styles of chair available that aided her husband in being physically close:

I moved on to the birthing stool which is where I gave birth to her, on the birth stool with my partner in the rocking chair behind me, massaging my back because I had a lot of lower back pain. **Urbinia CLU3**

A number of women, having felt dissatisfaction with the bed-chair layout of hospital rooms, talked about alternatives in the interview. A common suggestion was that a double bed would be better:

If I could have my ideal, I think it's like the one along the lines of what people describe the midwife-led centres but a double-bed would be a big thing for me because lying down with [*my husband*] and having him part of that experience. I wouldn't want him in the bath with me [*she laughs*] ... but to have a double bed because for us it was starting our family and every morning we're in bed together and that's what, I think probably every couple have in common. **Lily H.L (Unplanned)**

A double bed appealed to Rose, because it would let a woman and her partner have proximity, and be more familiar than the smaller size of a hospital bed (intended for one patient):

I know space is at a premium but you know I've not slept in a single bed for twenty years. It's a bed that is not for home and certainly it's narrow, my husband couldn't cuddle with me on the bed and lie with me. **Rose CLU2 (Induced, C/S)**

7.5 OTHER NON-VISUAL REPRESENTATIONS OF BIRTH SPACE

7.5.1 Introduction

The visual representation of birth space was the most common and two other significant portrayals of space also emerged: lack of spatial memory during fast transfer (in hospital) and the physical surroundings discovered in labour through physical support and touch (usually, but not always at home).

7.5.2 Fast transfer between spaces

Gardenia felt the urge to push in the bathroom of the maternity assessment area and described her transfer to the delivery room as fast:

They just like threw me in this wheelchair and ran up the corridor with me [*laughs*]! ... I don't remember much about the corridor except that she was going very fast and she said "I'm just getting there very quickly so you can get back on the gas and air"
Gardenia CLU2

Women tended to lose spatial memory when another person transferred them at speed:

This is a complete blank ... //SJ: (*going from labour ward to the operating theatre?*) I mean I know I must have been **wheeled** in the bed to there. But that was about it.
Rose CLU2 (Induced, C/S)

The physical discomfort of sitting in a wheelchair increased Rose's pain and became the focus of the journey for her:

I got wheeled in a chair and I can't tell you how long the journey was between here and there, but being in incredible pain in an uncomfortable chair. It wasn't nice at all.
Rose CLU2 (Induced, C/S)

Torenia described increased pain when she transferred to hospital by ambulance, not because of her physical position, but because she became fearful at the thought of leaving her planned place of birth:

It [*the pain*] just carried on increasing yeah, I think as soon as I knew that the ambulance was coming and looking back I can see that actually my ... adrenalin kicked in very much, so much more painful. **Torenia (C/S under general)**

The intense pain continued in the delivery room on labour ward and she offered this as a reason why she had difficulty remembering this room before the birth. For Torenia, the final transfer from the labour room to the operating theatre, and then giving birth under general anaesthetic, signified her complete loss of control over the birth. From her active response to labour at home she became increasingly passive, describing how 'we got wheeled into the theatre.'

The ability to self-transfer between spaces was important for women who wanted active control of their birth experience. Urbinia insisted on walking everywhere: between the car park and maternity assessment ward, from there to the birth room and independent of hospital staff:

It does, it felt quite liberating, in like, you'd be like having lost your independence. So I think walking down the corridor was really good. I think that would have probably felt different if I'd had to be in a wheelchair. **Urbinia CLU3**

Kerria and Gardenia's transfer stories highlight that a woman became static during transfer by others, and then she remained static upon arrival in the next room. Transfer also, unintentionally, dictated woman's placement in the birth room. A midwife positioned Kerria's wheelchair next to the chair in the birth room. Kerria went directly from sitting in the wheelchair to sitting in the hospital chair. As she said, she did not think to get up and walk around after being in a wheelchair:

I'd been brought up from the ward downstairs in a wheelchair and then with the midwife from downstairs ... and **she**, I think, put the wheelchair next to the chair and I just got out of the wheelchair. **Kerria CLU2 (Induced, forceps)**

When women are transferred by others at speed they are less likely to notice ancillary spaces in the hospital. When a woman walks between spaces herself, she is far more aware of the layout of these spaces and feels more in control of her experience.

7.5.3 Portraying the space through affordances, and physical support

Mobile women developed unplanned but helpful ways to use furniture or objects and often noted that they 'discovered' these affordances⁷⁴ in labour. Jasmine likened her kitchen to a 'passing place' en-route to the downstairs toilet. The kitchen worktop provided a firm surface, resistant to the pressure she applied:

Just a kitchen worktop happens to be just at the right height to sort of lean over ... that was a good spot and I did that quite a lot. It was also on the way to the toilet. So ... you could come from here ... through here ... stop on the way for a contraction then come into the toilet and back out again. I did a lot of [it] ... it felt really quite comfortable because then it was nice. **Jasmine H.J (Water)**

These affordances meant that mobile women could manage their own support through

⁷⁴ A property of an object, or aspect of the physical environment, that makes it possible for an action to take place. For example a bed affords lying down; a kettle affords the boiling of water.

interaction with furniture and, like Jasmine, showed less concern for having close physical support from another person:

We did this as well [*referring to sticker with partner supporting a woman*] but you worry that you're a bit ... heavy for people ... and then you're in very close proximity when you're doing that in somebody's face ... and you don't have the control. They're holding on to you and then if you suddenly want to change, can't necessarily convey that to a person but obviously a worktop stays there! You can move away from the worktop, get away from the worktop, whatever you want and it didn't take offence! **Jasmine H.J (Water)**

Many women, not just women planning home births, leaned on kitchen surfaces while in their own homes. Briony noted that: 'standing was easier so we were stood in the kitchen, just along the end of the kitchen near the window.' Nikko used the ledge below the hatch of the boat in a similar way:

The right height, exactly ... it was all perfect just for what I needed in terms of ledges and so yeah I did a lot of leaning here: leaning, leaning out the hatch, circling and swaying. I moved around **a lot. Nikko H.N**

Lily found a comfortable form of standing, showing that mobile labouring women often developed patterns of behaviour using their surroundings, which they felt they had invented:

I bet you're not going to have one for this [*referring to the stickers showing positions*], standing here at the counter ... and it's granite and having my head on my hands and going up on to tip toes ... That was really nice having the solid you know //SJ: (*and was it cold?*) very, very cool, very cooling putting my head down on it and I remember being up on my tip toes. **Lily H.L (Unplanned)**

Nikko also used parts of her boat for firm support. She 'hung' off the structural beam running the length of the boat. Nikko stayed in this position for a long time: 'They were **long** labours, so I was hanging off that beam for **hours** and hours and hours and hours [*she laughs*]!' The position of the roof beam within the space of the boat meant that her companions could move around her and support her. Like Lily's description of the kitchen worktop, Nikko expressed joy in the unique movement she could create:

Doing all sorts of things stood up like, grinding of hips and rocking ... and sort of stepping motions ... various birth attendants from my partner to my doula would come and just hold me and rub my belly and rub my back while I was hanging off the beam. It just was such a good place for during contractions and just lessened the intensity of them. **Nikko H.N**

The examples above show women valued objects in the room that gave them physical support, particularly objects that they could use without the need for guidance or additional physical support from others. However, most women needed, or at least recalled accepting guidance from others, on how to use objects for labour support. Lily's midwife advised her to try assuming different postures on her sofa:

I remember being sat on the green couch, sitting quite upright on it and I was sort of sitting forward, whilst on the phone to her and she asked me was I comfortable? And I said, “no, not really!” **Lily H.L (Unplanned)**

The midwife listened to her during a few contractions (over the telephone) and suggested she get into a more upright position on the sofa:

So I came over to this couch ... and I knelt? On the couch with my arms like up on the back? (...) she suggested that ... so she’s just a community midwife and I don’t think she does home births but it was quite nice for her to suggest that, and instantly I felt **better**. **Lily H.L (Unplanned)**

This input was enough for Lily to invent alternative ways of using other furniture at home and built up her confidence in her ability to labour at home. Midwives often offered suggestions which women tried. Cassia gave birth in a different part of the pool to her habitual labouring spot because the midwives ‘made’ her go to the toilet:

I never really felt like I needed to go and get up and go to the loo anyway. They did make me get out and try at one point. **Cassia H.C (Water)**

In a reversal of perceived roles, Urbinia’s midwives asked her how she had used the active birth equipment, since they had little experience in its use:

Afterwards the midwives were asking me how I’d used the rope ... and they were saying, “how did you use it?” **Urbinia CLU3**

Similarly to Nikko and Lily, Urbinia developed her own way of using the rope:

The one I’d sort of seen on [*Reality TV programme*], she was on the ball and pulling on it? Whereas I was standing? And I felt it was quite good because you could just move round, so I did. **Urbinia CLU3**

Nikko noted that the stickers I offered all showed women using hospital-based equipment. She responded by creating a new sticker to better reflect how she used her boat:

It’s interesting, the only hanging one shown here is the balancing on a ball and could do with a ... in fact we’ve got spares here haven’t we? Right let’s make our own, let’s make one. **Nikko H.N**

Mobile women knew the configuration of the room (square, L-shaped etc.) and drew a line signifying walls but did not record details of the edges of the room on the drawings. This differed distinctly from the supine women’s strong memories of objects in their line of sight. Jasmine, at one point in the interview asked if I needed her to draw the walls at all:

“I thought that you’re an architect type person so you ... walls might be important ... buildings need them or they fall down! But for me, the walls are not important (...) and sometimes I’ve been thinking I’ve been talking about things that aren’t related to ‘space.’ So talking about feelings and **people** who were right in the space, as we’re talking about them I keep thinking should I be talking about that? Because that’s not about a space ... but it is.” **Jasmine H.J**

7.6 CHAPTER SUMMARY

The findings demonstrate that women have a clear recall of the rooms they occupied and an embodied spatial experience during labour. Women rarely drew themselves within the space; this suggests they excluded their “bodily self from what they perceived within a space. Carman describes this aspect of perception as a person’s bodily self-awareness forming a ‘permanent horizon’ (Carman, 1999, p.220) rather than being part of a perceived foreground to lived experiences. Women’s experiences demonstrate ‘reciprocity’ (Dotov et al. ,2012) between perceiver and the environment; women understand their labouring self through the spatial context and adapt to their interpretation of the space. Birth space not only ‘accommodates the viewing subject. It is a viewing mechanism that produces the subject. It precedes and frames its occupant’ (Colomina, 1992, p.83).

An appreciation of the impact of mobility needs to be incorporated into architectural design strategies for birth spaces since a woman’s level of mobility within a room is a core factor in how she remembers and represents spaces. The room layout and the furniture contained in a space, shaped women’s movement and their interaction with others (similarly to Ledin & Machin, 2018; McMurtrie, 2016). Gibson (1979) and Merleau-Ponty (2015) found that mobility in space is fundamental to spatial perception. The user is a ‘perceiver-in-motion’ (Balabanoff, 2016, p.15) or in some cases not in motion when supine on a bed. Current design practice sets up a room in advance for women to occupy. The findings suggest a better alternative would be rooms designed for women to select and position furniture themselves, and re-position objects as a response to labour.

Women clearly remember the position of other people in a hospital context (see also Chapter 9) possibly because in this spatial context, people remain stationary for long periods and tend to be associated with an item of furniture. When people re-enter a room they tend to return to the same location they had previously occupied. Induction of labour, lack of space around furniture, and monitoring influence a woman’s mobility and thus whether she perceives the space as a scene of people.

Women who give birth at home do not draw a “remembered scene” and regularly change which room they occupy. Highly-mobile women remember less detail about a room and the woman’s location and her companion’s location are not easily remembered. Furniture forms spatial boundaries between which they move; for static women furniture sets their position, or their companions’ position in the room.

Lines of sight are important. Mobile women favour an outward-looking location: towards walls or looking through a window. When laid on a hospital bed, a woman faces into the centre and what she sees directly in front of her becomes significant and well-remembered. Women who lie on their side have an altered view of one side of the room and operating theatres are perceived as a “landscape of people”. Women are less aware of the periphery of an operating theatre than women supine on a hospital bed in other rooms.

Women interpret hospital furniture as having a specific function with which they, and their companions, need to comply (a woman lying on the bed for example). Martin notes that physical objects establish ‘power dynamics, especially within institutional settings, where mundane artefacts are enveloped within processes and interactions that position people as patients (or customers)’ (2016, p.45). The positioning of furniture may be driven by practical considerations in design guidance but is never independent from social meaning. For example, some women will find medical equipment, such as a neonatal resuscitation trolley, to be disturbing when in full view whereas others may find it reassuring (Sheehy et al., 2011). Furniture has a significant spatial and social role in companions’ sense of ‘unbelonging’ in extant designed birth rooms (Foureur & Davis Harte, 2017, p.116). It is not clear for supporters where they can place themselves in a room or furniture is positioned so that they are distant from a woman. Therefore, they can be unclear as to what their role might be in the experience of the woman they are supporting (Ibid.).

Women most often found new affordances for objects when labouring at home and planning a home birth. Thus, a situated theory of affordance for the context of a birth space, echoes Gibson’s (1976) theory of affordance that multiple uses reside with objects and spaces. Women discover new personal and labour-specific uses for objects that are not originally intended by the design. Thus, designers should aim to design non-prescriptive, interpretable spaces to support multiple affordances. This has implications for the common design assumption that providing equipment will result in women using such equipment in the intended way; for example, a bed, a birthing pool or active birth equipment. Balabanoff also notes that affordance also does not reside in an object but its relationship with a woman’s body in a birth space: ‘materiality is meaningful – not simply as visual aesthetics but as fully embodied experiential information, for communicating affordances provided in a given space’ (Balabanoff, 2016, p.19).

Perceived affordance, which Norman (2008) also identifies as significant in his theory of affordance, is also significant for labouring women. Perception is shaped by emotions, the

body and the structures of the brain: the mind has 'embodied cognition' (Lakoff, 1999). This chapter shows that motion, bodily posture and spatial position also change perception and therefore influence lived experience and the use of space. During childbirth, bodily aspects of space are intimately connected to experience. The next chapter examines further the theme of mobility by exploring women's trajectories through birth spaces during labour.

CHAPTER 8

TRAJECTORIES THROUGH SPACE

8.1 CHAPTER OUTLINE

All women experienced labour and birth in a series of spaces rather than in one birth room. This chapter examines women's trajectories through the spatial context during labour. Women often explained transitioning between venues and rooms as significant parts of their birth stories.

8.2 LABOUR AS A JOURNEY

8.2.1 Introduction

The women who gave birth at home were most likely to describe labour as a spatial and physical journey:

It took my mind in different places, knowing that I was going to move from one space into another, and that was the space where I was going to have her *[the birth pool]* just felt really reassuring somehow, but also almost as if you're moving through the stages of labour through the space. **Jasmine H.J (Water)**

Felicia also traced her labour through different rooms of her home; she did not want to arrive in the birth space too early in her journey:

I didn't want to be in one *[room]*... I didn't start off in the place I wanted to end up. Because I had a journey, labour is a journey and it's a physical journey...you start off in the bathroom, having a bath, taking your clothes off and then you end up in the birth pool or wherever you end up, so it's a **physical** journey as well. **Felicia H.F (Water)**

For Jasmine's previous hospital birth, she laboured primarily in one room and became distracted by wondering where the birth would be:

It is a bit "you're in there right from the start" *[in the hospital room]*. I can still see myself in that room last time in the hospital, it was quite big, so it had lots of space to move around, it was still just one space and that really mattered. At various points in time ... as I was in there in labour I'm thinking "I wonder where I am going to give birth then?"... "Is it going to be in here? On the bed there? Is it?" **Jasmine H.J (Water)**

Lily had planned a hospital birth. One thing she valued about her unplanned home birth was that labour had started and finished in the same set of rooms:

I know ... “right you’re ready to now, progress to the next room” ... **that**, that didn’t appeal to me at all to have to be in just one space the whole way through. Obviously I had my trip to hospital, but I gave birth in the same rooms that I started my labour in, and **that** was really nice. I think that’s what made it feel quite complete and sort of helped me to be OK with it. **Lily H.L (Unplanned)**

Felicia described the spaces in her home as ‘pockets of rooms’: a series of connected spaces that were easy to transfer between in response to labour events:

There’s no wide open spaces anywhere ... it was all connected, but to me they feel like distinct rooms. They feel like “pockets of rooms”, I don’t remember being on the landing for any length of time at all, because that’s an open space, that’s a going up and down space. **Felicia H.F (Water)**

This is a distinctly different spatial layout to the series of separate rooms women occupy in hospital (described in 8.2.2).

The journey marked the transition from being pregnant to becoming a mother. For some women, moving from a labouring space to a different birth space was an important transition point within this journey. Lily associated being at home with being on maternity leave, and arriving in hospital ‘made labour real’ for her. In the maternity assessment area:

I remember stopping and holding on to [*a rail*] with one hand and doing another bit of a sway and that was ... “oh this is real now” being in hospital made it real? But at home ... it was all part of me, having finished work and everything and hospital changed the mood a bit. **Lily H.L (unplanned)**

Most women who planned a hospital birth imagined labour starting at home, transferring to hospital at just the right time to not be sent home, then a quick progression to a private birth room. They expected to spend the greatest part of their labour in the final birth room; this was not what most of them experienced.

8.2.2 Labour as waiting in a series of rooms

Many women described a series of “waiting experiences” in hospital and in a sequence of different rooms some distance apart⁷⁵. Oleander’s description of waiting is typical:

When I came in at 6 in the morning, I sat on the bed. Somebody showed me in and said, “sit on the bed and wait for the midwife.” So that’s what I did. I remember sitting there and looking at the door waiting for somebody. **Oleander CLU2**

When women felt they were waiting, they stopped being physically active in the space, as Oleander did above, especially when labour was medically induced⁷⁶ on an antenatal ward:

It was a waiting space because I was waiting to go into labour ... I’d found that bit of labour really hard, the fact that she was late, because you build up all your expectations to have a baby and then there’s nothing ... So I mean it was a waiting space. It was partly in my head that I was struggling with it, more than the surroundings because I was waiting. I remember being relieved when I got down to

⁷⁵ This contrasts spatially with the free movement between adjacent rooms of women who birthed at home.

⁷⁶ Medical induction is the artificial stimulation of uterine contractions during pregnancy before labour begins on its own to achieve a vaginal birth for a woman.

the ward, because we'd arrived and was going to have a baby and stopped all the limbo of waiting around to go into labour. **Yarrow CLU1 (Induced)**

Heather described her experience of induction on a ward in a similar way:

That was meant to be a space to prepare me mentally and physically for labour? But it was like a waiting room and the longer I was in there the less sleep I was getting, the more stressed I was getting and therefore the less likely labour was to start. **Heather CLU1 (Induced)**

Before arriving in hospital, most women laboured at home and were aware that labour was expected to progress better at home. Rose explained that: 'home is the better place to labour ... by definition it is a relaxing area.' However, when waiting to travel to hospital, women were not relaxed and focused on when they should set off, for example Willow: 'I think you could say that I was probably waiting for the point at which I thought I need to go into hospital now.' Jasmine described labouring at home as being *before* the labour journey had started:

You can't relax because you're not in the right place and it's not just that you're not in the right place but all this stuff isn't in the right place. It's by the door ... waiting ... it's another sign that you're waiting to go and then you're going far enough away that you've got to take all this stuff with you, like a journey, you don't pack bags like that unless you're going somewhere far. So it doesn't, then to me, make home feel nice and relaxing and safe like it did this time. **Jasmine H.J (Water)**

Quassia was surprised at her physical inactivity before going into hospital:

I felt like this is it, I can't actually do anything more apart from prepare myself (...) I just wanted to sit down and curl up and wait for it to happen. **Quassia CLU2**

Most women wanted to move to hospital at just the right time and share their story of making the phone call to the hospital labour ward. Confirmation by a midwife that they could set off became significant for women in their pattern of waiting at home:

She talked to me through it and obviously I was able to talk quite comfortably, and she said, 'how often and how strong?' and it was like OK well, sit tight for now ... it was just like waiting for the point at which it was right now I need to go! **Willow ABC**

Some women worried about setting off too late:

It made me more nervous because I felt like I was ready and because my mum had said, 'oh I think that you should' and I think that made me think, 'well what if I do give birth at home?' Because I really didn't want to ... **Quassia CLU2**

Often a woman's companions encouraged her to call the hospital and insisted that she go.

Gardenia's story was also typical:

[*The midwives*] said "oh you know, sit and wait, wait a bit longer, like they do".... which is one of the reasons I was reluctant to ring, "well they won't let me go now!" **Gardenia CLU2**

But Gardenia's mother had insisted that she should go to the hospital: 'need to go, please ring now. You've got to go down!'

Many women worried about the timing for setting off for hospital because they did not want to be sent home after an assessment. Once women arrived in hospital and their labour was validated, they felt a sense of relief because the hospitals could sometimes shut:

When I arrived at the midwifery assessment unit, I was one of the last people allowed in because they were shut. **Rose CLU2 (Induced, C/S)**

Women placed greatest significance on not being sent back home:

I was examined here on the bed and I wasn't far enough along so they said, "we'll come back and check in two hours and if you're not ready we'll send you home" and I was in enough pain at that point that I was like, "What? No way that I'm going home!" **Quassia CLU2**

Those that were sent home found this a particularly difficult experience and at odds with their perception of the strength of their labour at the time:

So then you're waiting for something to happen that they might not think has happened but you think it's already happened ... I mean, when we went in and you're only one centimetre dilated and you've got to go home, to you it feels like a lot more than that! **Briony CLU1 (Induced, C/S)**

Briony and Lily were typical in questioning their ability to labour well after returning home:

I was sent home twice ... you feel like you could give birth it feels like that painful but then to be told that you're actually not, nowhere, near and you've got to go home ... was a bit gutting really, because you don't know what's going to happen when you go home ... although it was nice to be at home in a way, you're around your own things and you can do what you want, we didn't know ... //SJ: (*you didn't know what to do?*) no, we didn't really, it was a bit weird **Briony CLU1 (Induced, C/S)**

OK maybe I have a really low pain threshold ... maybe I haven't been coping that well at home. Whereas I thought I'd done quite well at home, I used all the space, I moved around, I kept myself going ... and I'd done it on my own and then it was a "no you're not that, you're not far, you're not good enough yet" [*she laughs*]. **Lily H.L (unplanned)**

Some women described the hospital spaces they occupied in labour as 'like a holding pen' for assessment, as Jasmine explained:

There's unexpected bits about it to start, felt like a holding pen when you first get there - the assessment bit. I thought because you're shown round just the rooms, I thought you would go straight to the rooms. I didn't realise you would go to the bit where they assess how well you're doing first, just before they decide where they are going to place you. **Jasmine H.J (Water)**

Women waited in rooms that were not intended as birth rooms because the hospital was busy:

I think this bed became available so they put me in here until they could get rid of me, and that wasn't until 24 hours. They kept coming back and going "you are on the list, you're number one on the list." **Kerria CLU2 (Induced, forceps)**

Gardenia's first hospital-based room was a small bathroom off a hospital ward, and Quassia thought the first room she occupied was a storage room. Knowing that this was not the intended birth room had an effect on women's behaviour in a room:

The first room was ... I think normally I would have been put somewhere else but they didn't have enough room. So they put me in a room that had a bed in and some chairs, but it was where they stored some of their supplies as well (...) the room that I gave birth ... felt, in some way, like my room. This didn't feel like my room, it felt like we were squatting there. **Quassia CLU2**

Vitex convinced herself that her first birth room at the ABC was a waiting room. Having laboured comfortably at home, this was a difficult part of her story:

This was the worst part of my labour. I felt it wasn't constructive ... because it was where I waited. Once I got in there [*the actual birth room*] ... into the birthing pool it was like, "right this is it ... we're going to have the baby in here" and we're going to get it done. **Vitex ABC (Water)**

This first room had birth equipment (such as sling, gym ball and mat) but was not set up for labour. She deduced that the midwives also saw the room as a temporary waiting area:

You were waiting on them, because they said they would come and examine you ... I was in full labour then ... it wasn't the same [*as at home*]. They didn't offer me any pain relief or do you want gas and air? Or do you want us to pull this rope down or ... there didn't seem to be any of that, they almost didn't expect that I was labouring? I was waiting even though I was actually in labour! **Vitex ABC (Water)**

Many women found waiting to move between rooms a difficult aspect of labouring in hospital:

There was a lot of uncertainty and I didn't know if I was going home or whether I was going to get wheeled down, or whether I was going to get the active birthing suite, or whether I was going to get to walk down or ... there's so much uncertainty that I couldn't relax. **Urbinia CLU3**

Waiting was not a significant part of a home-birth context. The *Word stickers* prompted Daphne to think about waiting. She decided that she had felt uncomfortable waiting in her kitchen 'but it's not like "waited for an appointment."' At home, waiting was a more self-directed experience of focusing attention on the physical sensations of labour. Nikko waited 'for my body to do the next bit':

I had a sense of observing and ... waiting for the next stage to happen (...) it wasn't a waiting for external factors. **Nikko H.N**

Cassia felt she held back from pushing, waiting for the midwives to arrive with the gas and air, but not because midwives directed her to wait:

I had wanted to push when I was still in the bathroom. When the midwives actually arrived I'd been sort of holding off the urge to do it. But I was damned if I was going to do it without the gas and air [*laughs*]. **Cassia H.C (Water)**

8.2.3 Possessions and moving to the next space

Waiting in hospital made the timing of transfer to the next space unpredictable. Women could feel disorganised when this transfer came and they felt rushed:

I'd been on a ward beforehand and all of a sudden they'd gone "Right! Get your stuff, we'll get you moving". I was like "oh no" and we were packing all these bags up and everything sort of got chucked in together and then we got in this room and there was nowhere to kind of organise or put anything and it was all just dumped on

the floor and then my birth partner was struggling to find stuff as the night went on. **Kerria CLU2 (Induced, forceps)**

Women needed to bring everything they might need for labour into the hospital and take all possessions wherever they were sent. This experience increased their sense of waiting and the temporary nature of their room occupancy, especially in curtained bays:

I was conscious that I feel like I had lots of **stuff** and it was **everywhere** and I guess I wanted to look through my bag to find something. **Gardenia CLU2**

Then you've got your bags for labour ... and where do they go? Well it, it was just far too small and not nearly fit for purpose. **Rose CLU2 (Induced, C/S)**

Quassia organised her bags in one corner of her room with her husband there 'so he could get me water and stuff'. Similarly, Briony identified the space for the bags as belonging to her and her birth partners: 'So this is the side where we had our bag and bits and bobs in here and we were eating and drinking [*she laughs*].'

These hospital experiences contrasted with Daphne at home: she did pack labour bags in case she transferred to hospital, but then did not use them because everything was to hand in its usual place:

I think that was important ... just all your home comforts within reach. I did have everything packed for going to hospital. But even after [*my baby*] was born, [*my husband*] went and got me my pyjama, pyjamas. The pyjamas that are just in the cupboard **not** the pyjamas that I packed. **Daphne H.D (Water)**

8.2.4 Certainty about where the birth would be

Many women said that during labour they had strong desire to know the allocated room for the birth. In a hospital context, women were not in control of when they could arrive at the final birth space, nor did they know for certain which room it would be. Getting to that room felt important to many women:

So then they moved me down to that room [*her birth room on labour ward*]. Took my husband quite a lot of asking because they were saying "we're not ready, we're not ready, we haven't got any midwives". I was just desperate to get off there [*the antenatal ward*]. So they said right, almost like to shut him up, and they put it in my notes, my husband was about to kick off, but he wasn't. They put me in that room and said "there's no midwife for you but you can stay in this room until we've got one" and then they shut the door and went. That's all I wanted and you know, you could have said it a bit nicer. **Heather CLU1 (Induced)**

If I could have gone straight into the room maybe, instead of that going to the maternity assessment centre then I would have loved to have gone. **Urbinia CLU3**

Women were more relaxed when they knew the birth room in advance of occupying that space than when they did not. In hospital, Oleander was shown her room straight away and then she left to walk in the grounds. She found knowing this would be the room very reassuring: 'I thought, "ah, oh gosh this is the room". It was a very, just very emotional feeling that this is a very important room.' This occurred to some degree at home too. Most

women planned which room they wanted to use for the birth and also adapted it for the birth. It seemed important to them to know it was ready in advance:

But it was there, it was prepared I knew it was there. It was important to me that it was up beforehand and everything was ready. And there was no kind of, minimal pressure when it actually kicked off. And I wasn't in any rush particularly for the baby to come. **Felicia H.F (Water)**

Although all the women preferred to not experience medical intervention, after a longer labour, transferring to an operating theatre was often welcomed as a certain sign of birth. Briony was typical, expressing a sense of relief when she knew that her baby would be born in the operating theatre:

We knew it was going to happen in here ... we knew for a fact with the surgery. I was probably happy because it was all about to finish after three days! [*she laughs*] There we go ... it's going to be that. **Briony CLU1 (Induced, C/S)**

In a hospital context there was always the potential that a woman could be moved from the room she was occupying right up until the moment of birth, unless she was in an operating theatre. Peony felt she had battled with hospital staff throughout her labour and this would finally mark an end to her labour: 'by that point I'd just had **enough** [*she laughs*]. I was just like, "do what you want to me" you know.'

Women at home knew the final birth space would be available when they were ready for it and therefore were in no hurry to occupy that space. In hospital, some women found they were second-guessing which room would be the one for the birth, as Briony said: 'we never really knew where we were going to end up ... I guess we didn't know whether we'd be in that room [*on labour ward*] or not.'

8.2.5 Certainty that the birth would be soon

Some women who laboured in hospital connected the arrival of a cot and baby equipment in the room with their focus shifting from labour and onto birth and the baby:

When obviously you were going to have the baby ... that's where they brought in the trolley thing for the baby (...) the cot and the weighing scales. **Vitex ABC (Water)**

Vitex interpreted the arrival of the cot as a signal that she was going to give birth soon. 'A nice sight,' as she put it:

I think they thought I was in for a bit of a long haul really then I said, "oh I want to push" ... She came back in and she was like, "oh right, OK" and went out and got this cot. So it gave me an added thing like, "ah, he's coming soon because she's gone to get the cot now" ... Well she obviously thinks the end is in sight, she's gone and got the stuff ... I think if it was in at the beginning it wouldn't have no effect. **Vitex ABC (Water)**

Yarrow similarly concluded that the cot should arrive close to the time of birth:

It does feel a bit like you're jumping the gun a little. I was in the ward for quite a long time in labour and then I was brought into the delivery room. I remember mostly

being really relieved that I had got to the delivery part. I kind of just wanted to have a baby by that point. I'm almost a little superstitious about it, the baby stuff before [*the baby's*] actually arrived ... I don't remember feeling that anything was for her particularly. It was very much a delivery room. You know the intention isn't for you to linger really is it there. **Yarrow CLU1 (Induced)**

Here, Yarrow evaluated that the birth room had completed its function once the baby was born and that she expected to promptly move elsewhere after the birth. Quassia spent time with her baby in the birth room afterwards, but it did not felt like the right place for these activities:

I didn't necessarily think staying in the birth room ... to do all of the necessary things like, I mean I did feed him but you need to then move on to wherever you're going to go to ... if it's home or staying in the hospital a bit longer, and I don't think the birth room was the right place to do that. **Quassia CLU2**

8.3 FACTORS THAT CONTROLLED WOMEN'S TRAJECTORIES

8.3.1 Introduction

Categories of rooms had a significant role in determining a woman's trajectory through hospital spaces. A midwife's assessment of labour became important in women's experiences as this determined which rooms a woman could access.

8.3.2 Categories of rooms

Prior experience of an antenatal tour (Chapter 6) exposed women to the idea that rooms were categorised according to the expected type of birth (high or low risk). Women expected to be assessed in order to access the different categories of rooms. They interpreted the assessment of labour progress as an assessment of themselves also:

So you're categorised when you get in [*the hospital*], how well or not it's going ... before they decide where they are going to **place** you. They are **physically** categorising you and moving [*you*] and it feels like it's kind of going down on the kind of ladder almost if you like. **Jasmine H.J (Water)**

Urbinia concluded this selection process was necessary but, like many, felt uncomfortable and self-conscious in the maternity assessment ward. Her preference was to go straight to a birth room:

If I could have gone straight into the room maybe, instead of that going to the [*maternity assessment ward*] then I would have loved to have gone, but I also think that you do need to get initially assessed because you can't just have everybody going into giant rooms and then you're not going to have enough space. **Urbinia CLU3**

With their fore-knowledge about categories of rooms, women communicated a strong desire to be assessed as low-risk:

I remember my blood pressure being too high initially to maybe get to the "nice" room and then having to wait while they check it again, and then somebody more important coming to talk to me ... and thinking [*to herself*] "well you just need to

relax! ... so you can get to the good room and not to the less good room". **Jasmine H.J (Water)**

Usually the allocated room provoked an emotional response: a sense of relief for 'nice rooms' and disappointment for more 'medical room.' Oleander was typical: 'I think when I walked in as I said to you I had that strong emotional choked up reaction of "phew I'm going to get one of the nice rooms" ... there was just a feeling of relief.' Briony was allocated her 'ideal' room (which she had noticed during an antenatal tour of the ABC) for her first labour visit to hospital and thought the birth was: 'going to be lovely.' After several more journeys between home and hospital, her waters broke and she was induced on the labour ward of CLU1. The shift from birth centre to labour ward made a significant impact on how she expected labour to progress from there: 'I was like in tears'. Her expectations for the birth had been set by the first room at the ABC.

Some women understood their room allocation to be influenced by how busy the hospital was at the time or by other management factors that did not relate to their individual needs:

We need to put you in one of the medical rooms and that's that. I **could** have had one [*a room with a pool*] and it wasn't available I had to make do with a rubbish one, whereas you can't argue. **Sage CLU2 (Induced, forceps)**

You don't really have any say in it do you? You can say, "well I prefer to have one with a pool". There's no guarantees, so there's that feeling until you come down the corridor and you're shown this room, you don't know what you're getting and you don't really ... I didn't think I had a choice. **Oleander CLU2**

This is the thing ... it's all this management isn't it? From their point of view, it's not me as an individual. **Kerria CLU2 (Induced, forceps)**

Quassia explained she would have worried if she had not been allocated home-from-home room, even if the reason was that the unit was busy:

I think because I knew that [*those rooms*] were for high risk women ... I would have thought, even if they had reassured me, I would have thought at the back of my mind, "they're not telling me something". **Quassia CLU2**

Most women described their hospital birth room in terms of the risk category this represented to them. They determined this category in various ways. Most women were not told an explicit category by staff but surmised it through the position of the room on a ward and from the way it looked. Heather used what she learnt from the antenatal tour to interpret her room allocation as a sign that intervention was likely in her birth experience. Once in the room she then read the size of the room as confirming her perception of the room as 'high-risk, high-risk':

And they said, when we were doing the tour beforehand, there are, even though you are in the labour ward, you are higher risk but there are low risk, high risk and there

are high risk, high risk. So I went in and the room was very big and it was right next to theatre. I thought so I'm high risk, high risk so then I went for that. And then the size of the room was good because it was big, but bad because I knew that meant there may be a lot of people they needed to have in here. You know I can hear this is one of theatre doors, in case they want to swing around and give me a section.

Heather CLU1 (Induced)

All the women who birthed on the labour ward at CLU1 transferred there from their preferred venue (home or the ABC)⁷⁷ and were aware that there were better spaces available to other women:

I know it makes sense to have everything together but ... I knew this corridor joined to the birth centre? And I ended up the other side of something where I wanted to be (...) birth centre ... "heralded place" ... no entry for me. **Heather CLU1 (Induced)**

Women often interpreted allocation to a 'nice' room as a midwife confirming that the birth would go well and this gave them confidence they would labour well. This scenario was especially common for the women who used the ABC. Vitex, for example, felt empowered by the ABC:

I think because I got that birthing suite and it wasn't made to feel overly medical, I don't really feel like I had any intervention off anyone? ... being in that space did ... make me believe that I could do it on my own. **Vitex ABC (Water)**

Many women interpreted the overall ward layout in category terms: a room on one side of delivery suite meant you were high risk, a room on the other side meant you were low risk. Women worked this out for themselves, as Heather did on seeing her room next to the operating theatre as very high-risk. Inside the room, women interpreted risk through the presence or absence of certain equipment and furniture. For example, Kerria assumed there was something wrong with her baby because she could see a baby resuscitation unit.

The CLUs in the study differed spatially in whether same category rooms were grouped together, or whether different category rooms were adjacent. Women who used the CLU1 and the ABC described and interpreted a clear distinction between the philosophies of care of each venue, implying that some level of physical separation helped women to understand these differences. Heather described the rooms as 'so different' because they represented different types of care (consultant-led or midwife-led) but she also noted that physically the layout of rooms was the same. This suggests that birth space is defined by the human, social context of the rooms:

The whole set up of that space [*the ABC*] is good and positive, free choice and almost you're in control. Now this [*CLU1*], things are done for you, to you and there's a very negative clinical vibe as soon as you walk past what the birth centre gives

⁷⁷ This unit had an "opt out" policy so that all women were booked into the ABC and the women in CLU1 had effectively been transferred from the birth centre.

you, at that stage that's what you're trying to achieve ... I don't see why the space can't seem the same, with the same "energy". **Heather CLU1 (Induced)**

8.3.3 Midwives control entry to the building and the rooms

In the hospital-birth stories, midwives controlled women's entry into the building. Women thought they needed to comply with instructions and wait, if they wanted to stay in the hospital. In the assessment area, many were also surprised at how little control they had:

It felt like it was ... we were squatting there and we were going to be moved on at some point and that was kind of determined by what was happening to me, but actually somebody else would decide when it was time. **Quassia CLU2**

Part of Nikko's rationale for choosing to free-birth was to avoid this assessment of labour:

That was what I was trying to avoid ... the measuring, the timing, the measuring (...) it's about what doctors want and what midwives want ... it is not about women at all. **Nikko H.N**

A midwife asked Mazus to walk around the hospital building after her initial assessment to encourage labour to progress, which she gladly did. Being in the vicinity of the hospital reassured her, even if she did not have a room. She felt more certain that the birth would take place in the hospital:

When I go in hospital at least I know what's going on because if I'm going to stay on in the house maybe like I'm going to have a baby in the house so I won't panicking or something. **Mazus CLU3**

Other women also chose to stay close to the building. Oleander was booked for an induction of labour, but her labour had started spontaneously. After placing her possessions in her allocated room, she left the building to walk in the grounds:

We must have done twenty laps? We just went round and round and it was ... nice cool air and just felt quite comfortable there. I did feel slightly of, "when I go back in ... I'm going in, I'm staying in". So I kept going, "no I just want to stay a bit longer" and my husband, who is a bit anxious about these things, he said, "well, I think we should go in now". "No, I want to stay until I'm ready" you know (...) and then I was back up and sure enough, once I was in. I was in. **Oleander CLU2**

Some women felt that assessment by a midwife exposed them to the potential start of a process of medical intervention. For Sage and Peony, their waters broke before the onset of labour. The midwives encouraged Sage to go home and wait for labour to start naturally:

They were like, "well let's get you back in again the next day, and we'll see what contractions are like" ... and they kind of collaboratively lied about that to give me more time to kick start natural labour. **Sage CLU2 (Induced, forceps)**

Peony chose not to contact the midwives at the hospital for several days after her waters broke, hoping to go into labour naturally. She recognised that hospital policy only applied if she was physically in the building:

I was showing no signs of infection and ... it's just policy in hospitals to do stuff within 24 hours but there's no actual written evidence ... so we waited. **Peony CLU3 (Induced, C/S)**

The threshold into the hospital building gained significance for women as a physical boundary at which medical invention could happen and birth could become a pathological event. Heather regretted agreeing to induction and wished she had stayed at home:

If I'd not even gone in. Even if I'd been induced and thought "no I do want to go home and get some rest," and started labour, they couldn't have come and got me, I could have stayed here as long as I wanted or for whole thing ... I really think I relinquished too much control but, but then I think you're scared into it a little bit and rooms like that don't help when you get there. **Heather CLU1 (Induced)**

Late on during Iris' labour at home, she agreed to an examination and this was a turning point in her labour. Her waters broke and there was meconium⁷⁸ leading to her transfer to hospital. This changed the atmosphere of her birth space at home:

It's really interesting, when she'd measure me, my water's broke at the same time and it was then that the meconium was really thick. So she just said "we have to have an instant transfer into hospital" and they had to call the ambulance and ... all of a sudden everything just shifted. I mean this space was just this really calm and positive, all of a sudden was this frantic place. **Iris CLU3 (Unplanned at CLU3)**

Iris' experience shows that maternity care practices set physical boundaries around where a woman can be for a normally-progressing labour. These practices also set limits on which (hospital-based) rooms she can occupy, if a vaginal examination identifies that the potential risk of childbirth for her or her baby has increased during labour.

8.3.4 Spatial mobility and time

Waiting in a variety of rooms was a common experience in a hospital building. When waiting, time became a focus for women and those who laboured in hospital recalled labour according to the timing of events:

I was starting to say I might need something else, painkiller-wise so the midwife examined me and said "oh you're six centimetres" and I think we'd all hoped I was a bit further on than that really. And I thought, "oh gosh I don't think I can go another ..." four hours I had it in my mind ... here, with only gas and air. **Oleander CLU2**

A focus on time and duration of labour was unhelpful for most women, especially when waiting to move on to another space:

It's difficult because your mind works in different ways, on the one hand if someone said, "oh you'll move in an hour" then that would have given me something to fix on, but then an hour's a really long time when you're desperate to move. **Yarrow CLU1 (Induced)**

Limits for accessing hospital rooms were set according to time – spatial boundaries formed by space **and** time combined. Briony's labour was long and her waters had broken, the timings of labour dictated which rooms she could access:

So we went in twice ... and then got sent home again and then went back, we went back to labour ward to be induced because there was a clock on her [*the baby*]. **Briony CLU1 (Induced, C/S)**

⁷⁸ Meconium is the baby's "first poo" and a sign that the baby may be distressed.

Women interpreted access to the next space with progress in labour and hoped to move regularly and quickly within a hospital building, as Lily explains: 'I wasn't going to stay there for long. I was hoping I was going to go onto whatever the next, the **next** stage.' Returning to spaces previously occupied (in a hospital context not at home) was perceived as turning the clock backwards and returning to an earlier stage of labour. Lily remembered her husband driving them back home from hospital:

So we drove home ... and he said he had this over-riding feeling of "this is stupid" [*she laughs*] driving away from hospital in rush hour traffic to come back home. Coming back in through the front door ... I think I slammed it ... When I went back in, it was very much a "right we're back here again." How, how long is this going to go on for? (...) It did feel very much like it had gone back to six o'clock in the morning again. **Lily H.L (Unplanned)**

As well as the right space for the stage of labour, women described a right amount of time to spend in a room. Mostly women felt they spent too much time in a particular space, and occasionally too little:

So this environment is fine for you know ... I think of it as a smear test length of time. Come in, quick check, that's really all they're suitable for. They're not suitable for either the hour or two that I was in there (...) considering they needed to do a pelvic examination twice and the rest of the time I was lying in a pretty uncomfortable bed! **Rose CLU2 (Induced, C/S)**

Women adopted the behaviours associated with waiting when they occupied spaces they considered temporary. They also did not feel able to adapt rooms if they expected to wait there for a short time, as Kerria notes: 'It was a bit temporary and ... I suppose you just can't make it your own can you when it's like that.' Lily compared being in labour in a curtained bay with a postnatal experience of a similar curtained bay after the birth; when she expected to stay longer she adapted the space:

An interesting thing when I went to hospital afterwards, I moved my bay around completely, I made [*my husband*] move the chair and I swapped and I did things because I knew I was going to be there for awhile. In that [*maternity assessment ward*] it feels like you can't move anything ... really we were only there for half an hour or so. **Lily H.L (Unplanned)**

Some women looked for a clock in a room if a midwife provided a time for when they could move elsewhere or expect to be re-assessed. Heather and Quassia gave typical examples of this experience. Heather wanted to read the clock behind her head because:

It went down being so prescriptive, in the sense they were checking every four hours. I wanted to know whether what I thought had been two hours was two hours or whether it was ten minutes or whether it was five and then actually they were a bit late. **Heather CLU1 (Induced)**

I was on the bed after the birth. I was very conscious of the clock, because I could see it from the bed and they were saying they wanted the third stage to be over within a certain time, 45 minutes, an hour they said ... and I didn't want to have the injections to move things along. I was thinking "right I need to make sure this

happens,” because I don’t want to get into this argument about having it or not having it. **Quassia CLU2**

Briony also marked labour progress in terms of hospital time, through the midwives she met over several shifts during her labour:

An awful lot of rooms, a lot of shift changes, I think we must have seen most of the midwives that worked on the birth centre or the medical ward! Two days (...) [*and in the labour ward room*] so there were three different midwives, I was there that long in the same room. **Briony CLU1 (Induced, C/S)**

At home it was especially common not to have any awareness of time:

I wasn’t interested in the maths and the figures of it? In the timing and the measuring and you know, any of that. I just think that a massive, massive distraction to a birthing woman. **Nikko H.N**

At home in early labour, Daphne timed her contractions using an app on her phone, and then stopped:

In the end I stopped timing them, because it were just getting ridiculous and I needed to concentrate on working my way through the contractions rather than [*she laughs*] timing them! **Daphne H.D (Water)**

Daphne controlled whether she introduced time measurement and she stopped this when it became unhelpful. Home-birthing women did not feel a need to know how long aspects of labour lasted; often they estimated how long something took because they didn’t know:

I don’t really think about it like that I suppose. I don’t know what time things happened ... some of it, some of it not [*laughs*]. **Jasmine H.J (Water)**

When labour was longer for a home birth, women did not focus on this as a difficult part of their experience, perhaps demonstrating that clock time was only relevant in hospital birth spaces:

I spent most of early labour hanging off the roof beam so I was there from ... in both births for a good few hours. I was in labour for three and half days with [*older child*] and one and half days with [*baby*]. So they were long labours and so I was hanging off that beam for hours and hours and hours and hours ha, ha, ha [*she laughs*]! **Nikko H.N**

This perceived “disappearance” of time in a birth space, also happened for Urbinia in her CLU3 birth room. There was something about this room that led Urbinia to lose a sense of time and believe that a home birth would be a similar experience:

I think like it was just about me, I think it also made me lose sense of time? So even though I was there a long time ... it didn’t feel like it was a long time because you didn’t notice the passing of time. **Urbinia CLU3**

She compared this experience with being in a curtained bay of the maternity assessment area earlier in her labour:

It’s almost like the tick of a clock when you can hear the heartbeat monitors going, and if you keep listening to a clock ticking it does feel like you’ve been there for ages ... and I’d only been there for about an hour and a half ... because you can hear “ba boom ba boom ba boom ba boom” ... and you’re like counting down the seconds until you can leave. **Urbinia CLU3**

A focus on time is linked, for women, to the assessment process that allocates hospital rooms. Women who waited at home, before they transferred themselves to hospital, did not experience the same disappearance of time as home-birthing women. Jasmine explained this comparing her first hospital experience with her second home birth:

I was in the same house the first time round when I was in labour with my first daughter but I used it quite differently ... walls-wise and where things are was basically the same. It's not that we've done work to the house since, but I just spent a lot of time pacing around almost like a caged animal, you know when you see them do a figure of eight. I'm surprised there isn't a trail in the carpet where I just went like that [*indicates figure of eight in living room on drawing*]. It wasn't that I used the space in a nice relaxing way; I used it in the kind of "I'm waiting to go somewhere else" kind of way. Waiting for when it's the right time to go to the hospital and I must be far enough along because I have to meet the being five centimetres bit, I don't want to go too soon and be sent home or sent to some other space when I get to the hospital. **Jasmine H.J (Water)**

8.4 CHAPTER SUMMARY

A labouring woman wants to be able to anticipate her whole spatial experience for labour and birth. Women in hospital could not predict the room for the birth or what the room would be like, whereas the women at home could select and prepare a birth space.

A notion of "right" influenced the way women felt about waiting at home or in different parts of a hospital: where feels right changes for each phase of labour and often varies between women. Arriving at the hospital building and then successfully entering the maternity spaces within, was a significant part of most women's spatial experience. Arriving in the actual birth space provokes an immediate and emotional response (similar to Wood et al., 2016) and is a significant social act.

Women are aware that hospital rooms are categories (high or low risk) and judge their ability to give birth according to the birth room assigned to them. The organisational layout of spaces plays a role in the sequence of rooms that women use and thus how they chart a trajectory through space. They interpreted that staff controlled their trajectory and which category they were assigned. Progress through the building represents progress through labour for many women. In a hospital context, organisational factors often leave women waiting in spaces and hoping to progress more quickly to the next one. Women who chose a home birth had in some ways distanced themselves from exposure to medical intervention and did not communicate concern over how long they spent in the different spaces of their homes.

Home, birth centre and the hospital ward all have borders and boundaries (McCourt et al., 2016). Women want to be on the "right side" of these boundaries and worry about waiting too long in one space and thereby exposing themselves to the possibility of

“abnormal” events: an accidental home birth, induction of labour or a caesarean birth in hospital. The social aspects of delivering care are also challenging for midwives in this spatial context. Midwives want ‘time to listen and time to focus in’; they don’t get ‘that luxury of time [of time] on labour ward. It is like a conveyor-belt of mothers’ (Shallow, 2018, p.88-89).

Women’s experiences reflect Foucault’s notion of a hospital as an ‘examining apparatus’ (Foucault, 1995, p.185) or laboratory: women feel their position in a room is often fixed by monitoring equipment and the people doing the monitoring. They interpret that they can only move to the next space by being examined. The hospital spatial context has aspects of a ‘total institution’ (Goffman, 1968) that isolates the woman from the outside world with hierarchical patient-health professional relationships and restrictions on patients’ use of space. The physical space and objects in a woman’s home have the capacity to express a woman’s self-identity as a core part of childbirth experiences (Gilmour, 2006) and this self-expression is more difficult to replicate in hospital. Women are distanced from their everyday life and the hospital does not become a familiar space, regardless of time spent there.

Labouring women encounter spatial boundaries that are ‘managed and negotiated’ (McCourt et al., 2016, p.25) mostly by midwives. There is a socially-constructed border between the therapeutic care practiced in the birth centre (ABC) and the clinical care practiced within the larger hospital context (to the CLU1). Women focus on the spatial boundary between the two (a corridor) because it represents where professional boundaries of responsibility change and thus, where women are subject to different spatial restrictions. It is likely that the midwives, as well as the women, feel a sense of ‘continual threat around their boundaries’ (McCourt et al., 2016, p.25).

At home spatial boundaries can alter in response to how a woman feels about her labour. She manages and negotiates the position of a boundary and where midwives can be positioned. Spatial boundaries are important to women in their experiences and how they perceive the progress of labour. Similarly to the findings of McCourt et al. (2016), women perceive that midwives actively curate a difference between the birth centre and the consultant-led unit: ‘the environment was created to mirror and promote a certain kind of birth “philosophy” – it worked to reflect the ideological differences at work in each space’ (McCourt et al., 2016, p.14).

A new architectural understanding of birth spaces needs to consider the social implications of fixed or flexible/changing spatial boundaries and who manages the location

of those boundaries within buildings. Layouts should reflect women's preference for knowing all the spaces they are likely to occupy during labour, in order to anticipate these and relax into labour itself. Women's physical journeys through labour are also governed by spatial acts that they use to manage their proximity to others. Chapter 9 that follows examines how space can feel protective to women at a time of vulnerability in labour, and women manage companionship through their use and control of space.

CHAPTER 9

SPATIAL PROXIMITY AND SOCIAL INTERACTION

9.1 CHAPTER OUTLINE

This chapter examines the relationship between the physical space and women's experiences of companionship and the experiences of other labouring women. It explores how women represented birth space through their interactions with others. They recalled who was there, what was said and how people behaved in different spaces. Often, women described space as having a protective role, giving them separation from others. Women also protected space, controlling who entered it and when this happened.

9.2 THE PROXIMITY OF OTHERS

9.2.1 All together in a shared space

Women valued rooms and buildings where they could use the layout to control their proximity to other people. Women found they had minimal spatial control over the proximity of others in a hospital context, and particularly noticed other labouring women in shared spaces. The curtained bays of a ward were one such space. Rose described clearly who was behind the curtains of each bay of the maternity assessment ward. Kerria felt sorry for the labouring woman on the other side of a separating curtain who seemed to be continually arguing with her partner: 'and I heard **absolutely** everything that was going on ... bless her.' It was common for women to express concern for the welfare of women they overheard who were obviously in labour. Women also protected their birth companions from what they interpreted as happening to another woman:

There was a woman who was in tears and I know she was very upset about something. I was lucid enough at that point to realise that that might have been something really bad ... I kind of distracted [*my husband*] from that because I didn't want him thinking that something could go wrong with us. **Quassia CLU2**

Women sometimes became distressed about their own labour progress in response to hearing other labouring women interact with hospital staff:

I overheard those people being sent home. I thought, 'oh my gosh I'm going to be sent home now' and I've got to do another car journey in pain ... [*the midwife*] came back and said, actually no you are 4cms now you can go downstairs to the delivery

room. I was really pleased, just really relieved I wasn't going to get sent home because I overheard that conversation about going home. **Urbinia CLU3**

Women were particularly aware of the “woman-next-door” in birth rooms that shared an en suite bathroom (ABC and CLU1). The location of the en suite door was a focus of these women's drawings. They worried if the door was locked or about accidentally meeting the other woman in there. For example, Briony felt awkward about spending any time in the en suite bathroom:

I sat on the toilet with my hand against the door because it was hard to tell whether the door was locked. Yeah it was a bit weird ... even though it probably was locked, but you've always got that fear that somebody could walk in on. **Briony CLU1 (Induced, C/S)**

Willow remembered spending time thinking about the double-door arrangement and where to leave her things:

I didn't think that they'd let them in, while I was in there, but obviously I shouldn't really maybe occupy it forever, or leave lots of stuff in there, in case they needed to chuck stuff out to make room for someone else. **Willow ABC**

None of the women used a shared bathroom as a space to labour in.⁷⁹ Vitex drew the shared bathroom as the first marks on the sheet for her birth room. This implied that she saw it as part of the birth room but she did not use it during labour. She did not see it as an appropriate birth space because it was shared:

Then one time when I went in, their door was open? Obviously they hadn't shut it and I just think ... like the mess after you've given birth ... I didn't really think you might be sharing that with somebody else who's just given birth as well? **Vitex**

The sounds of people next door passed easily through the connecting bathroom doors and more than noise from the corridor. Women distinctly remembered the overheard conversations of other labouring women. Briony still knew the name of the woman in the adjoining room and recounted her “story,” interpreted from what Briony had heard through the bathroom door:

The reason we know her name is because she kept getting told off by the midwives! She was obviously not doing what they wanted! ... You could definitely hear her and then occasionally you could hear other people. You could hear people like in labour, while we were there. I was quite conscious of that, “oh my God, don't want everybody to be loud, that woman's annoying!” You could hear people. **Briony CLU1 (Induced, C/S)**

Some women had a keen awareness of an unseen woman's location in a ward or adjoining room. Briony thought she could describe her neighbour's actual position within the next door room, just from hearing her. In Heather's drawing, she drew the adjoining room as if it was part of her birth room, spatially-linked by the shared bathroom (*Figure 9.1*). Lily could

⁷⁹ This was different to the use of bathrooms at home. A number of women laboured in their home bathroom.

label who occupied the bays on her maternity assessment ward drawing (*Figure 9.2*) despite being in the space for only 30 minutes and behind the curtain of a bay. Most women said they had felt the need to be quiet in these spaces as sound would travel into other people's curtained bay. Inside the space of the curtains women seemed to always be aware of the larger room full of people:

By the time you've got the curtain wrapped round you there's not a lot of space that's yours and it's impossible to have a private conversation isn't it? Not that I particularly wanted to but you're aware that if you're talking you're disturbing people. **Yarrow**
CLU1 (Induced)

Figure 9.1 Heather's room where everything was co-located (adjoining room shown as part of the space).

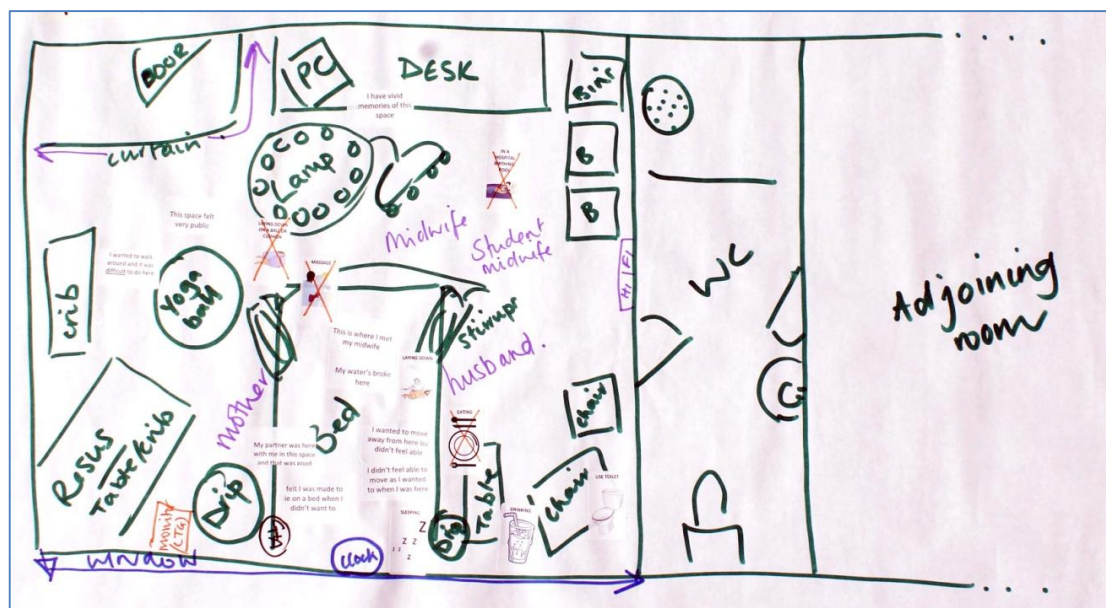
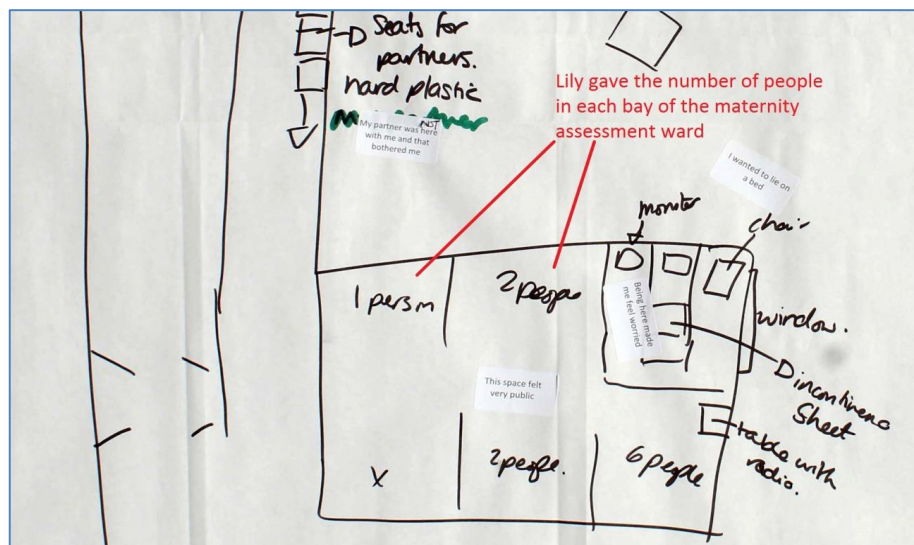


Figure 9.2 Lily's drawing of the maternity assessment ward showing occupied bays



Yarrow felt the extra 'commitment' of induced labour made her exposure to sounds of other women more difficult for her as she did not have the option of going home:

You're nervous before you have a baby anyway because you're committed to it ... the way that people talk about induction and it's recognised as being sorer than normal labour, so that adds to the fear and then seeing people having quite a tough time. You're like two metres away from them and they're having full on contractions so it's very not private. It's quite unpleasant for the people in the wards, in the beds beside you ... but then having a contraction you don't really think about it because it's sore. That bit felt quite public, I mean the curtains are so thin aren't they? **Yarrow CLU1 (Induced)**

As well as transmitting the sounds of labour, the curtains were mentioned as too flexible meaning that moving in the space disturbed others:

I had lots of **stuff** and it was **everywhere** and I wanted to look through my bag to find something. I'd feel like every time you get off your bed you're brushing against the curtains of the person next to you ... I was conscious of that ... and if I had been "on my own" on my own I wouldn't have felt like that. **Gardenia CLU2**

Some women then avoided being too close to the curtain which made the space they thought useable even smaller:

To me, the curtains have all the bad things of a barrier but with none of the good things of a barrier ... You know they make the space small so that you can't fit everything, but you can't lean something against them so they encroach on someone else's space. **Rose CLU2 (Induced, C/S)**

9.2.2 Seeking separation from birth partners and midwives

At times, women wanted distance from their birth partners and from midwives. Women had different expectations of proximity to their partners, who they saw as their main source of support, and midwives, who were often seen to be there to monitor the progress of labour. None of the women said that they wanted to labour completely alone, but all discussed how their need for social interaction changed during labour.

The hospitals in the study mostly provided a series of singular-spaces (for example, a curtained bay or a birth room). This led all companions to stay in close proximity throughout the experience. Differences in how a woman and her partner coped with the woman's labour were accentuated in singular-spaces. For Yarrow's first birth her husband had sat and read: 'which he was forbidden to do this time round.' At home, it was common for a woman and her partner to be in different rooms. Cassia did not know what her husband had been doing whilst she laboured elsewhere and this did not trouble her: 'I don't know what he was up to really ... stuff! *[laughs]*'

Quassia said her husband would not have missed the birth, but this room arrangement did not work well for them:

I don't think he felt comfortable in the room particularly. I think he felt like it was a "woman's space" and he was a bit of an intruder. **Quassia CLU2**

Quassia wanted him to be present, but not in close proximity all the time. When he moved closer and they held hands for the birth that signified sharing the experience rather than her needing close physical support:

I just felt like in some ways he can't help me with it. I've got to go and do this thing and I did want him to hold my hand at a certain point ... *[but]* he was actually happier over here *[sitting by the door]*. **Quassia CLU2**

Neither of them needed him to be close by whilst she laboured. Quassia suggested:

I wonder whether ... not another room, but just a space where he could be easily called upon ... that was sort of his space, where there was newspapers and internet and wotnot. He could then be there and come in when it suited. **Quassia CLU2**

Quassia's room had two parts: a birth room and an en suite. She used both for labour and did not consider that the en suite could provide 'his space' within the room. For her, the internal bathroom, a room within a room, added another layer of privacy and intimacy that she felt was for her.

For a planned home birth, the final preparations of the birth space often took place during labour; as a task for a birth partner to complete. This spatial practice often led to a woman her partner occupying separate rooms in early labour. The woman then focused on her experience of labour unaware of her birth partner's activity elsewhere. Setting up the birth pool was usually a priority task for the birth partner:

I must have been in the bath maybe twenty minutes before deciding yeah, you *[partner]* need to go set pool up. And then I think the pool takes **forty** minutes to set up so that took the first *hour*... ish. **Cassia H.C (Water)**

Completion of this task often signalled the start of a time of closeness:

He had stuff to do - he had to put candles out, he had to phone the midwives, he had to prepare the pool and I wanted him with me so he was quite torn because he was running up and down ... so I think once the pool was ready it was like right now we can go and be there, together. **Felicia H.F (Water)**

For all the home birth women using pools, their partner was close by and focused on them once they entered the pool. This contrasts with the hospital "bed-chair-monitor" layout (Chapter 7) which women a sense of distance from the other people positioned in set places by the furniture.

Section 9.2.1 discussed women's concern for the welfare of other women in shared hospital spaces. Some women expressed a similar concern for their partners sharing a birth room with them:

My birth partner, I remember she wasn't really catered for at all ... I did forget which hour of the night we were on, but I do remember being really conscious of this: that there was this hospital arm chair there ... and there was nothing else ... she was just there all night and had to get on with being uncomfortable I suppose. That was just

all I was concerned about at one point ... stupidly [*laughing*]! **Kerria CLU2 (Induced, forceps)**

The sight and sound of other people distracted a labouring woman, even when these were chosen companions. Women focused on the midwife in the room, who was often seen to be monitoring a woman's progress in a set position near equipment (Chapter 7). Women do not manage the position of the midwife in a hospital room. Heather explained that in her birth room she had wanted separate areas for different people:

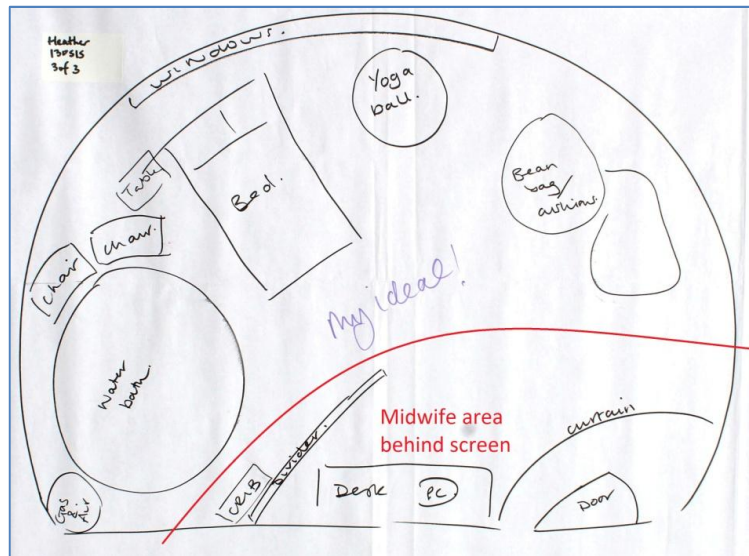
The most important thing is the co-existence of everybody in the same space. So there needs to be the resus table, and the bins and the desk and the lamp, and the drips. They're all very clinical and very medical and they're all over. There's no birth space **for just me. Heather CLU1 (her emphasis).**

Heather's drawing showed a cluttered room; and the problem with 'the co-existence of everybody' and the equipment spread across the whole room (*Figure 9.1*). Briony similarly experienced her CLU1 room in terms of equipment and people, with the bed as the only space she could be during labour (Chapter 7). Everyone being in one space restricted her movement: 'I think in here I was probably conscious of walking into anything or bashing anything or moving anything or getting in anybody's way.'

Similarly to Quassia's desire a separate space in the birth room for her husband, Heather proposed a separate "midwife space" in her ideal room: 'I'd have some sort of divider so it [*the midwives workspace and computer*] wasn't in my eye line.' She wanted some dedicated space: 'there's no birth space for just me. Even on the bed because you know, I'm attached to the drips.' In drawing her ideal room (*Figure 9.3*), she made her portion much larger than the midwife's area. This is an opposing arrangement to the way Rose drew her birth room with a large 'viewing area' for the midwives and her space just the bed in a corner (*Figure 9.4*). Heather explained her ideal room (*Figure 9.3*) in terms of her visual control over the space:

I didn't want to draw a square room, like [*the space*] flows better ... this being the midwife area, and this being my bit. Rather than ... everybody in this same space [*looks at drawing of actual room*] like that. I was sort of in the middle and everyone was around me. [*referring to her "ideal room"*] I'm in the corner, I can see everything from where I am. Nobody's behind me, nobody's coming out the side of me. **Heather CLU1 (Induced)**

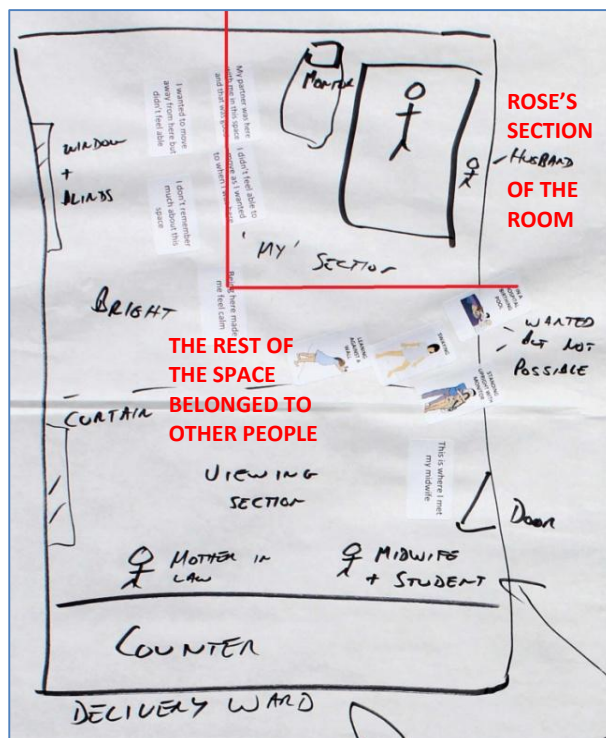
Figure 9.3 Heather's drawing of her ideal room



Heather used equipment to mark out the midwife's space in her proposition. Equipment and the midwife 'co-exist' and are in a part of the room she cannot see:

Whereas if things needed to be in this room as I would have wanted it [referring to her "ideal room" drawing], they can be here and then they're not invading that space and it seems much more likely to promote labour and non-intrusive labour, non-intervention labour. **Heather CLU1 (Induced)**

Figure 9.4 Rose's birth room with the large midwife space



9.3 CREATING PROTECTIVE SPACE IN HOSPITAL

9.3.1 Introduction

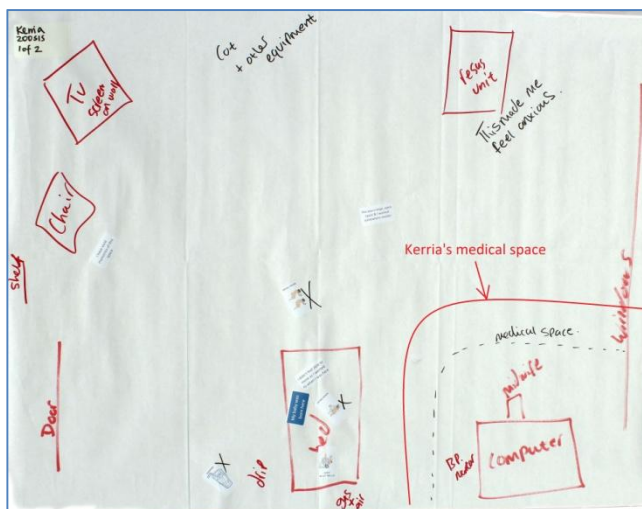
When the conversation turned to what a more ideal space might be, most women suggested a clear division of space within hospital birth rooms. They wanted a spatial division between a place for them and, as they described, the ‘midwife,’ ‘medical’ or ‘hospital’ space. Kerria identified a medical part of her actual room (*Figure 9.5*) but not a part for her:

I would have liked to have my bit or our bit, but I didn't feel that there was. **Kerria CLU2 (Induced, forceps)**

9.3.2 Using furniture and doors as protection

Some women created their own sense of division in a space. Oleander positioned herself with her back to the door, between the bed and a sideboard near the window. She leant on the sideboard and looked out of the window from this protective space (*Section 7.3.5* also):

Figure 9.5 Kerria identified a ‘medical space’ in her room but no space for herself



I very much felt comfortable leaning over [the sideboard] when the contractions were coming ... I did like almost to be in here as well in the corner ... it felt kind of ‘my bit’ ... it felt maybe a bit safer over there. **Oleander CLU2**

I asked her if her position behind the bed played a role in feeling safer there:

Yeah, I think you're probably right there ... I did like that sort of barrier and this smaller space. **Oleander CLU2**

In her hospital room, Peony moved the bed to a position against the wall, actively ‘turning her back’ on the staff in the room and finding other ways to separate herself from them by covering her head with a blanket:

You didn't feel like you were right in the middle of the room for people to stand around you. If you're against the wall ... I remember facing the wall for a bit, because I was like, you know what, I'm not interested in what you want to do with

me. I can remember being sat on the birthing ball for a good part of this induction with my head under a blanket because that's how I was quite happy. **Peony CLU3 (Induced, C/S)**

Doors also played a role in controlling disturbance and companionship, since they could include or exclude people from a room. Who controlled a door reflected a power relationship for some women, as Jasmine explained when comparing her birth at CLU2 with her birth at home:

In the hospital ... there's lots of other people that can come in if you have the conversation and decide that you don't want to do something, it's not necessarily going to stop there. Because ... they could maybe get the consultant or there's somebody else could come down and they say 'no, no, you really must do this because of ...' whatever reason. You know there is a door, you can't shut the door, you can't control the space and you can't control who comes (...) I suppose I feel outnumbered there. **Jasmine H.J (Water)**

She thought this power struggle would be absurd at home:

You know there's only going to be two midwives and if you've got you, your birth partner and so we had a doula, if you have somebody else as well, there's three of you. It's not that then if you disagree, somehow more people are just going to come and, your neighbour is not going to come in through the door ... or the postman go ... "no I agree with them. You should do this, they're right" ... that balance of power is always in your favour and there are not more people that can come. **Jasmine H.J (Water)**

Closed, open and slightly ajar doors had important roles for women moving through space and managing their contact with others. Felicia drew doors to every room but only talked about the closed door between the 'midwives' kitchen' and the birth room. So I asked her to explain why:

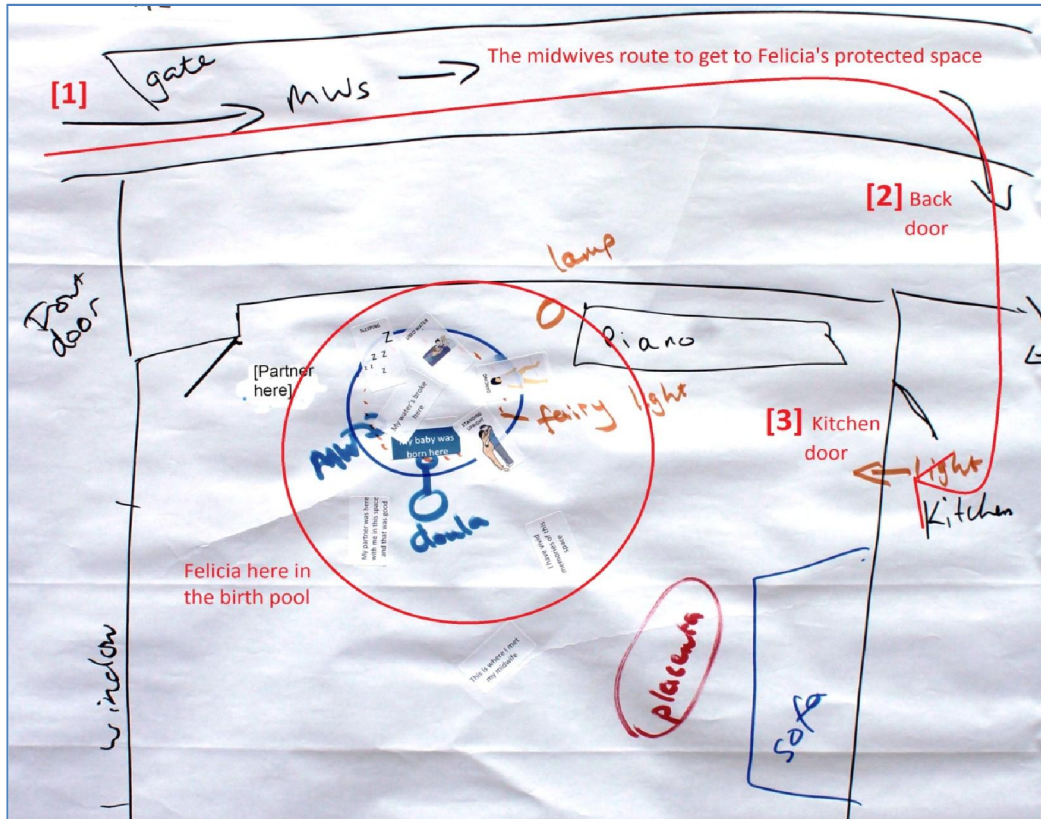
None of the doors were really closed. This one down stairs, I think they [*the midwives*] closed that one. I didn't do it but none of the doors upstairs particularly, we don't have them closed ever we very occasionally close the bathroom door. **Felicia H.F (Water)**

In Felicia home, doors were not as important to her compared to the women in hospital. She accessed many rooms without closing any doors. Doors were, however, important for the midwives' use of space at her home. Felicia identified three doors in her route she planned for the midwives to enter her home (*Figure 9.6*):

The gate there, the door there [*the back door*], and the door there [*between the kitchen and the room she was in*]. That's three doors they had to get through before they get to me. **Felicia H.F (Water)**

Felicia's doula and partner marked the route down the side of the house with battery operated candles and opened the front gate. The midwives entered the house straight into the space prepared for them in the kitchen.

Figure 9.6 Felicia's drawing (annotated to show the midwives' route around the house)



Jasmine wished she had thought more about managing the front door of her house so that her husband did not have the role of gatekeeper:

Maybe I would have thought through who's going to let people come in and out. Like putting a sign on the door, even to say "if you get here and we don't answer and you're a midwife - do just come in." That was the downside of being kind of, so far off in here *[at the back of the house]* **Jasmine H.J (Water)**

Earlier in labour Jasmine noticed how easily the visiting midwife sitting with her in the living room disturbed her labour. Her prior strategy for managing people had been for the birthing pool space and not the rest of the house:

As soon as they come in through the door, you're letting them into your birth space in one way or another. I'd seen this as the kind of, more public area *[the living room]*, I hadn't really thought about how it would feel when they were **here**. It hadn't crossed my mind that even them being *[in the living room made her feel uncomfortable]*. If I'd have been in **there** *[where the pool was]* I would have thought about it more and said "can just one person come in." **Jasmine H.J (Water)**

A companion took the role of gatekeeper for the closed front door of the house during the home births. Daphne's husband met the midwife in the car park and brought her into the house; an act of controlling her entrance. Daphne really wanted him to stay with her, but she let him leave the house because this arrival was important to manage. Contrastingly, the midwives meeting Cassia, as she laboured on her knees in her bathroom

in a relatively private part of her house, did not bother her. She was amused, not concerned, that she was naked and visible through the open bathroom door:

I ended up on the bath mat, which is where I met the midwife [*laughs*] with class, naked bum to the door, towel over the head because it was too bright. What a scenario poor [*partner's name*] came running up going: "the midwives are here!"
Cassia H.C (Water)

Doors were often used to protect the actual birth room once midwives had entered a house. Jasmine chose the room furthest from the front door, giving two doors between her and the arriving midwives. On her drawing she marked the door to the birth room as shut to keep the midwives out of this space:

It is at the back of the house but that also meant it felt a bit safer ... like a space we could create for ourselves. And because it is further from the front door ... it was not just that the room is further, but that we obviously put the pool as far as possible as well!
Jasmine H.J (Water)

She used the door for the same purpose after the birth, when the delivery of the placenta was delayed:

When the placenta was not coming that was when the midwives were sent out of the room, the door was closed here. You know they probably had bits of paper work to do.
Jasmine H.J (Water)

Similarly, Torenia positioned her birthing pool behind the living room door as a barrier with other parts of the house where she expected the midwives to be:

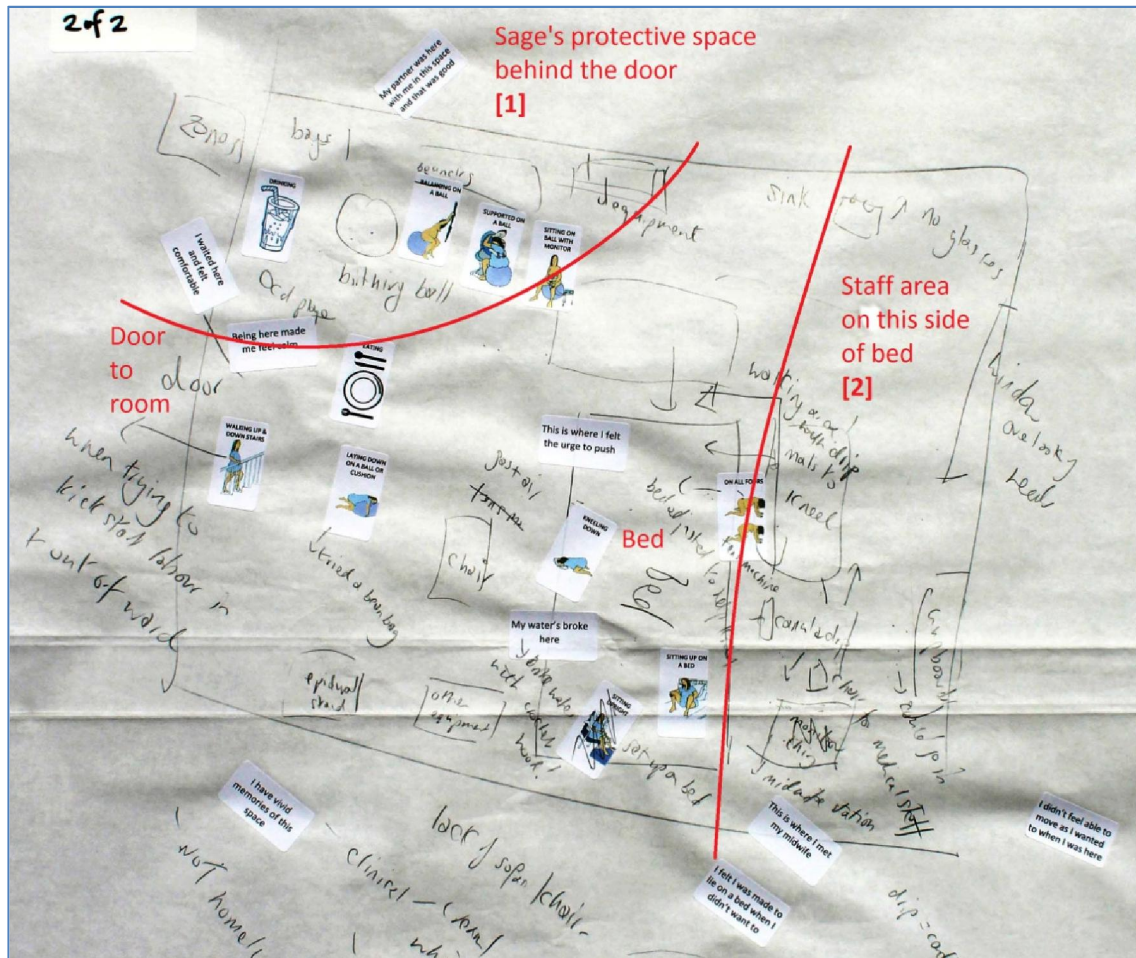
A bit more cosy and felt more private ... because this door opened that way, I could have the pool behind the door.
Torenia CLU1 (C/S, under general)

Some women in hospital rooms also positioned themselves in relation to the door. Sage made 'her space' behind the door (marked [1] on *Figure 9.7*) as the furthest point from the midwives' workstation and the medical equipment on the opposite side of the bed (marked [2] on *Figure 9.7*):

So we sought to be away from all the equipment over here ... because that's where the monitor was, where they were all typing and stuff.
Sage CLU2 (Induced, forceps)

She still felt that behind the open door was the most protective place she could find in the room because it distanced her from the people in the room even though she was aware of the movement of people outside the room.

Figure 9.7 Sage's birth room on delivery suite of CLU2



She kept low down in this corner, seated on a ball with her bags around her. In this position, the bed acted as a barrier dividing the room into her part and the staff area. Similarly to Heather, she concluded her ideal room would be divided into two parts:

I like the idea of having a birthing room where you have the medical bit, but there is little suite off in the corner. I think that would work really well ... it's almost like if you split in half you have a nice waiting area and then the medical bit. **Sage CLU2 (Induced, forceps)**

In Oleander's room, she did not occupy the space near the door at all. She noted this did not feel like a protective space: 'I wouldn't want to be here [*next to the door*] ... maybe that's why I ignored that seat, it was right next to the door.' Not everyone perceived the door as a problem or a tool, Quassia's husband sat in the seat by the door in the same birth room. He had wanted to be outside of the room and perhaps this represented the closest he could get to achieving this.

Heather stayed on the bed and for the actual birth she pushed against the stirrups on the bed. Even when giving birth she watched the door, aware that she might be disturbed

at this key moment:

I ended up facing the door I don't know if that was ... a subconscious way of being able to vet whoever was coming in before they actually came up behind me. I wasn't straight on the bed ... and my husband was there because I wanted to see him and my mum was sort of here taking my hair out of my eyes so she, she was sort of behind me. **Heather CLU1 (Induced)**

Jasmine recognised the birth room door connects a woman to the everyday activity of the hospital, even when closed:

It was somebody else's space and there was a load of stuff going on ... and as soon as the door opens and closes you are aware there's lots of other stuff going on outside ... it's not quiet calm and relaxed thing like looking out the window and seeing birds and the sunshine and trees ... life is just going about as normal, it's busy, busy stuff outside the doors. **Jasmine H.J (Water)**

The door represents the threshold between the public parts of the hospital and a woman's room. Peony described how her control over this one room in the hospital, made her feel in control of her labour, and protected her from the influence of people in other parts of the hospital. She put great effort into maintaining control over the room. This control eroded over the length of her labour as more and more senior staff entered the room. When she agreed to an epidural, staff moved the bed back to its starting position:

He was then trying to give me an epidural whilst I was having a contraction, so at that point they'd moved the bed **back** to the middle of the room. **Peony CLU3 (Induced, C/S)**

People entering through the door of the room where a woman was, seemed to be mainly a problem during labour and not at other times. Iris found the constant traffic of people through the door distracting:

I think this door, this "thin" space here [*the part of the birth room near the door*] was very **intrusive**. Literally, I mean it felt like every five minutes there was someone knocking, coming in, knocking on it, in out, in out ... I don't know why there were these five thousand people coming in, though for some reason they were (...) There were definitely moments where I said to my husband: "Ah I can't **stand** people coming in and out of this room." Then he was just like 'Is there any way you can stop the knocking?' The knocking was the thing that was driving me nuts. **Iris CLU3 (Unplanned)**

Women were less concerned with who was in the room after the birth. Felicia fiercely defended her birth room from midwives during labour, but was less bothered by their presence in the room afterwards. The custom of knocking on the door before entering made Quassia's room feel like hers after the birth. She did not comment on whether it happened during labour. An interpretation of this is that she expected people to be present for the birth, but not after her baby was born:

Afterwards when people came in they knocked at the door ... well I needed some stitches and then they had the changeover of midwives ... and then somebody came in for breakfast to ask what I wanted and then brought my breakfast and each time they knocked and so that made it feel more like my space. **Quassia CLU2**

9.4 “SUITE ROOMS” IN THE HOSPITAL BUILDINGS

9.4.1 Introduction

Most hospital buildings afforded women a series of singular spaces during labour with restricted access to ancillary spaces (Section 9.2). Across the three hospital venues, the same certain rooms were identified as particularly attractive and comfortable birth rooms by the women. Often they saw them on an antenatal tour and had a prior expectation that these would be good places to give birth. This section discusses women’s experiences of using such spaces (shown in *Figure 9.7*). Quassia and Oleander used the same room in CLU2, and Vitex and Briony used the same room at the ABC, giving the opportunity to compare their experiences.

Women drew these rooms in a particular way that was different to other hospital spaces that they drew. When they started drawing, they drew a larger outline and then divided the space into two as if they represented one unit of space or a “suite of rooms”. Urbinia described the two parts of the room as feeling ‘like one thing.’ When drawing other hospital spaces, women drew in an additive way, starting with a singular birth room and adding other spaces around it. For example, the CLU3 rooms with a large en suite bathroom were drawn in this way.

9.4.2 Moving back and forth between the spaces

Common patterns of use emerged for the “suite rooms”. Women moved as they wished between the two parts of these rooms and as many times as they liked. They discovered labour-specific affordances (similarly to Chapter 7):

They offered the birthing stool and said, ‘oh, sit on the loo first ... I didn’t like that so I moved back and I tried the birthing stool ... I was in here and then moved to the bathroom and then back again. **Quassia CLU2**

Quassia and Oleander moved easily between the parts of the “suite room:”

So the baby was born ... she was almost born here in the middle of the room ... because most of the labour was spent here [*in the birthing pool in the en suite*] and then at the last minute, we sort of made a mad dash and she appeared. **Oleander CLU2**

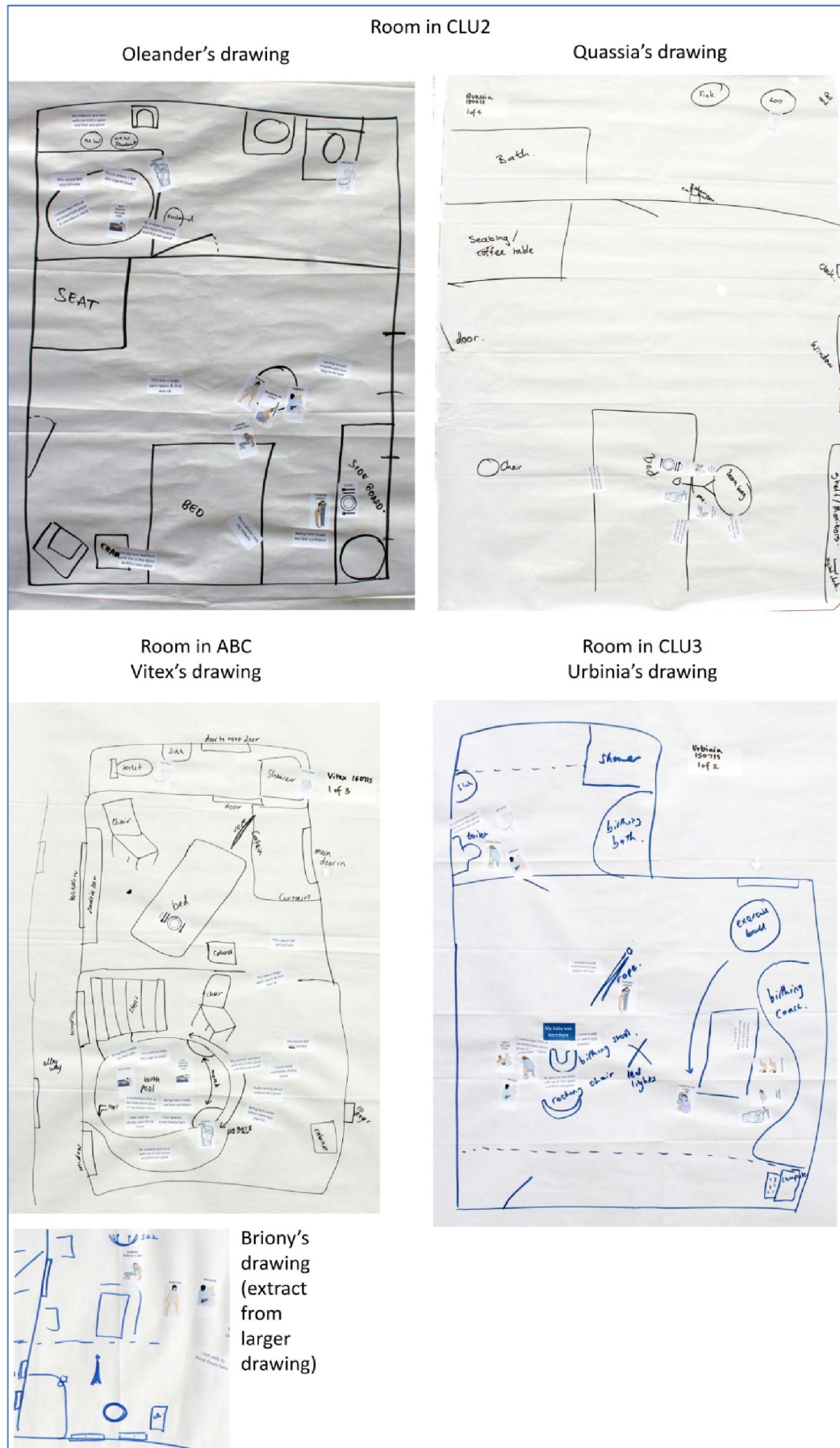
They recognised the use of the mobile gas and air⁸⁰ as helpful in aiding this movement:

There was a canister of gas and air that sort of followed us around a bit. **Oleander**

They wheeled it in somehow (...) like I could pull on it. **Quassia**

⁸⁰ I use the term ‘gas and air’ as this was commonly used. The more technical name of Entonox was rarely used.

Figure 9.8 The three rooms women described as a suite of spaces



Urbinia's "suite room" also had mobile gas and air available. This made a difference to how confident she was to move often between the two spaces. She 'didn't want to be attached' to anything restricting her movement:

Then I wandered round [*the* room] with the gas and air and even that was a moveable machine. I didn't get like, hooked up at any point. **Urbinia CLU3**

Urbinia moved between the two parts of her "suite room" in many positions and suggested she would not do this along the more public corridor of a ward. Here she described walking on her knees from a kneeling position in the birth room and into the en suite:

I was on my knees holding onto the birthing couch ... then I went 'I have to go to the toilet!' so I kind of walked or knelt round! [*she laughs*] the room and then laboured on the toilet for quite awhile. **Urbinia CLU3**

9.4.3 Seclusion in a "suite room"

The "suite rooms" were the ones most often described as not feeling like a hospital by women. This was in contrast with, for example, Sage's room that did not have a toilet and walking along the corridor re-exposed her to the hospital environment:

And then back into the bright lights and back into "yes this is a hospital." **Sage CLU2 (Induced, forceps)**

Quassia's job required her to often stay in hotel rooms and she saw similarities between hotel rooms and her two part room:

It was somewhat familiar and I'm in a room that isn't my home, and then there's a bath and it's my bath and my bathroom so it felt OK ... it didn't feel like a hospital, even though it was clearly a hospital. **Quassia CLU2**

Vitex described the birthing pool side of her room:

It didn't really feel like I was in hospital ... not in this side ... once you went into there. **Vitex ABC (Water)**

Women felt relaxed whilst labouring as they could spread out over both spaces with their companions and possessions. A birth partner was physically closer to the woman in these spaces. Urbinia's room was flexible for her partner as he moved around the space with her:

I don't think he ever felt like he couldn't get involved or thought he had to sit. He moved around a lot with me which was nice, I don't think he lacked things to do [*she laughs*] **Urbinia CLU3**

Briony described her husband physically supporting her, dancing and swaying in the "suite room" of the ABC. This type of spatial proximity was more common for the women who had home births, whose partners were often moving with a woman in the space or somewhere nearby doing a job such as preparing a birthing pool.

Vitex felt watched in the first birth room on the ABC. In her "suite room", people came into the room on the other side of the wall to her, but she did not notice them:

People that popped in, seemed to “pop” in round this side and go out, you know there was really only me, my husband, the main midwife came into this other bit.
Vitex ABC (Water)

Urbinia had two midwives with her in her “suite room” of CLU3, but she was not disturbed by their presence like Kerria and Heather described in their birth rooms (Section 9.2). Urbinia remembered them on the periphery of the room and separated from her in a positive way. It was easy to understand which parts of the room belonged to whom and Urbinia controlled the larger section:

When they had the diamorphine conversation ... it was that area [*marks this with dashed line on drawing*]. So it was very kind of peripheral? And my experience of the room: I knew at times she was there, checking (...) but it didn't feel like they were! It only felt like, I would say that the midwives felt that they were there [*by the door*], or they felt like they were on that edge of the room? **Urbinia CLU3**

Urbinia placed importance on the room feeling ‘quite secluded,’ some distance around the corner from the main corridor of the labour ward:

You can hear other people [*in hospital*] and I was really conscious that I was being loud ... this [*room*], it felt a lot more private you know. I walked down and I was saying: “thank God I'm in here!” Yeah, I was really relieved. **Urbinia CLU3**

Urbinia did not feel observed in this room:

During pregnancy I had been worried about the whole kind of “looked at” aspect of [*birth*]. I'm not an exhibitionist, I'm not somebody who enjoys being naked or anything (...) it's not just naked but viewed by other people, but actually I didn't feel viewed at all. **Urbinia CLU3**

Urbinia said she was risk-averse and concerned about her baby during pregnancy. She did not think about risk in her “suite room”. She attributed this to the room not looking set up for birth with furniture around the perimeter. She did not perceive any of the furniture in the room as medical equipment. She thought the room protected her from her concerns:

I always thought in labour I would be panicking [...] and so for me to feel that relaxed that I didn't even think that she was going to come out not OK, that's quite impressive. **Urbinia CLU3**

The “suite rooms” on the ABC and CLU3 differed from Quassia, Oleander and Urbinia's rooms. The woman usually positioned herself as far away as possible from the entry point of the suite of rooms, for example, the other side of a wall or doorway. These rooms felt secluded and private to women even though they were not at the end of a hospital corridor. Jasmine proposed that a birth room needed to be:

In your own space disconnected from the hospital. Maybe you can build a little pod somehow stuck out from the hospital. **Jasmine H.J**

In general, women found large rooms concerning: Heather because more staff could enter and Rose felt observed and exposed in the centre of the birth room she occupied. This was not the case for “suite rooms”. For Vitex, the division into smaller spaces made the

room more comfortable for labour: 'Just to be able to have all of that space to yourself.' Briony also found this room 'enormous' when she used it in labour. She liked that midwives could be in a separate part to her:

It seemed quite big and spacious and there was plenty of space to sit and you weren't on top of each other. **Briony CLU1 (Induced, C/S)**

Similarly Vitex interpreted the room as a part for her and a part for staff and more medical aspects of birth. Briony frequently compared this room with her room on the CLU1 labour ward where she felt cramped and in the way of her midwife until she lay on the bed. The lighting in the two parts was also different and added to the distinction between the parts which Vitex liked:

When we were in the birthing pool I think it was dimmed and then in there it was bright lights like artificial light (...) this is definitely more hospital on this side but that's almost in a way I liked it being? The two separate bits. This bit, when I was giving birth, it did feel pretty natural and that you weren't in a hospital. I mean, there's no other time you're going to get into a pool in hospital. **Vitex ABC (Water)**

Vitex marked out her birth journey in her trajectory between the two parts of the room: giving birth in one part and recovering in the other. Oleander's experience in the CLU2 was similar in that she mostly laboured in one part and then gave birth in the other part of the room.

I knew a recent refurbishment created Yarrow's CLU1 room from two offices (her drawing in *Figure 9.9*). She was not aware of this, but noted that the room felt like two rooms put together:

It looked like a room that was designed for something bigger if you see what I mean, almost empty ... it could have been two almost (...) after [*her baby*] was born and people were kind of busying around in there and I had my little family at the top end and they were doing whatever they needed to do at the lower end [*of the room*]. **Yarrow CLU1 (Induced)**

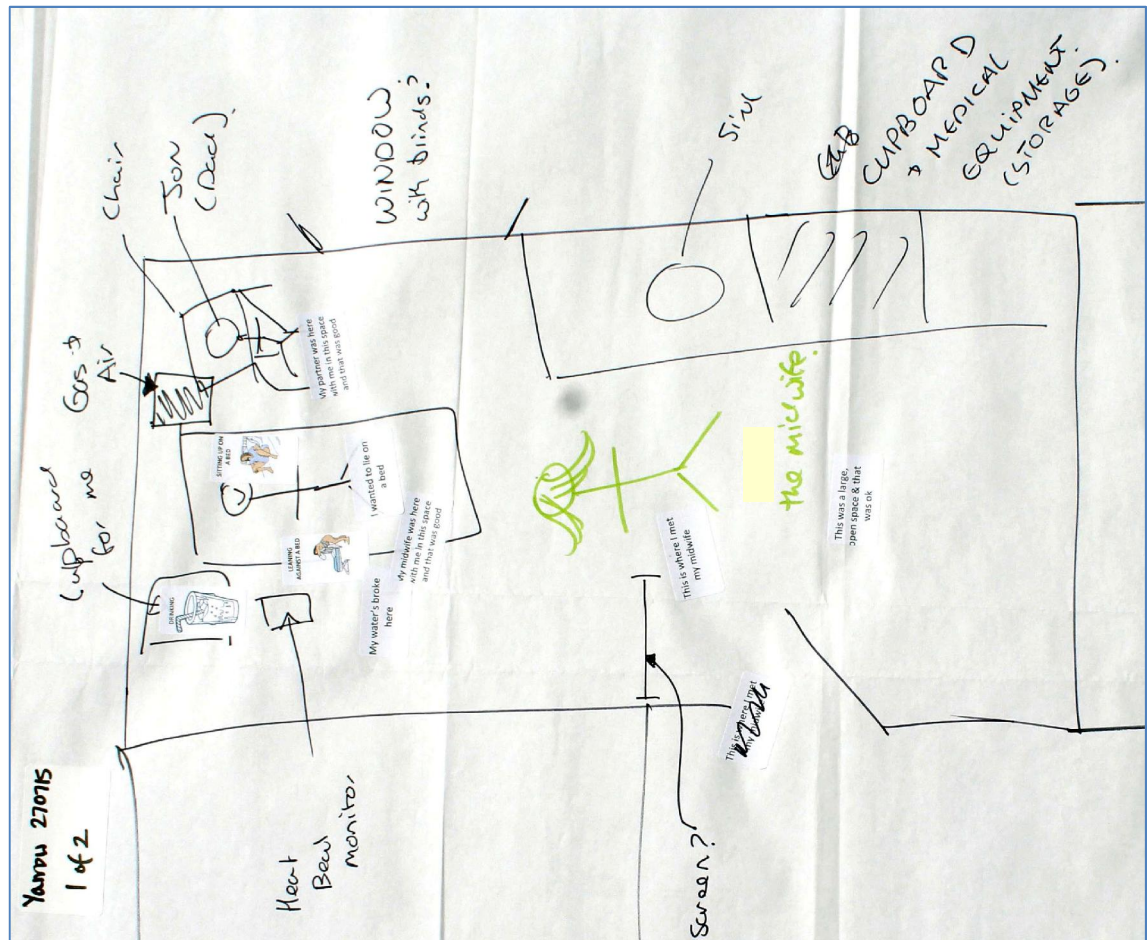
She liked that it felt like two rooms, without an obvious physical division, describing similar attributes to women in more obviously-divided rooms:

I remember it being really long and narrow (...) It felt quite private and also I just think because the bed is quite far away from the door. **Yarrow CLU1 (Induced)**

Yarrow believed "giving birth is not particularly private" and so she did not seek privacy in her room. However, like Urbinia, the position of her room at the end of a corridor contributed to a noticeable level of privacy in the room:

So the room was at the end of a corridor so, there weren't so many people. I don't remember feeling everyone could see me (...) I felt quite far away from the other mums. In the [*labour*] ward where I had [*older child*] the lady in the adjoining room was in full on labour so you could hear her, for hours, screams coming through the wall, which is a bit nerve-wracking ... whereas that ... it felt a bit further away. **Yarrow CLU1 (Induced)**

Figure 9.9 Yarrow's room in CLU1 which had been two rooms



9.5 SPATIAL STRATEGIES

9.5.1 Going upstairs and managing social contact

You just ... you want your own stair. Need a kind of birthing rooms in the hospital that are like turrets somehow, that have floors above. **Jasmine H.J (Water)**

Many women identified downstairs as the relatively more public area of their house, somewhere they would let strangers enter, and upstairs as a more private area. Women laboured in downstairs rooms when on their own or just with their birth partner. If strangers, midwives or extended family members arrived, women went upstairs. This was a deliberate act to create social and physical distance from others.

A kitchen fitter was at Briony's house when she first returned from hospital and she went straight upstairs. Other family members arrived later and she remained upstairs:

I just stayed up there ... then mum and [husband's name] came down here. His parents were still here and they went and got fish and chips and lunch downstairs, I ate upstairs, I just stayed up there (...) kind of snuggled up and like mum kept coming to check on me and stuff but I was up out the way really. **Briony CLU1 (Induced, C/S)**

These women were comfortable other people were present if firstly, they could achieve

vertical distancing upstairs and secondly, a companion acted as a go-between the women and the others. Lily's father-in-law arrived at her home and her husband managed their proximity for her:

I asked him to call his dad, say 'don't bother coming' but his dad was already on the way (...) When he came over I didn't see him, I'd gone back upstairs (...) and [*my husband*] came up and said 'can dad stay for a cup of tea?' and they needed to put the car seat in the car, and do things and I remember thinking that's absolutely fine because [*my husband*] was here (...) His dad stayed for about an hour and I [*was*] upstairs, just pottering round in the bedroom. **Lily H.L (Unplanned)**

Willow concentrated on her labour upstairs when her mother-in-law arrived to babysit her older child. She needed to be on her own:

It was obviously just a bit more private and I could just concentrate on what I was doing ... I'm sure she wouldn't have been trying to badger me ... but it did just feel like I don't necessarily want to interact with anyone else right now, I just want to be on my own and yes see my husband when he pops up and checks on me ... I'll just stay here [*she laughs*]. **Willow ABC**

Jasmine strategically used the upstairs of her house to distance herself from some people, and have privacy with others. She regularly went upstairs but did not stay long each time. She pretended she was using the toilet up there:

When there were people in here. If I said I wanted to go to the toilet, I had a way of escaping if I wanted a little bit of time on my own, or just me and my husband ... and nobody's going to follow you upstairs in **your house**. (...) That's [*a*] space that feels like it's yours ... So even though I could have gone to that toilet [*the one downstairs off the kitchen*] I would quite often go upstairs ... whilst I was up here ... could have a little chat [*with her husband*] ... if I wanted to say: "oh can we get this sorted, or whatever" that was easier to say, just us. You could do that up here without that seeming that's what you've gone to do and come back down. **Jasmine H.J (Water)**

For this common strategy to work, it needed the right combination of people upstairs. Iris' doula joined her and her husband upstairs and, although Iris really valued the presence of her doula in the house, it felt wrong that she was upstairs with them:

I just noticed the difference when she [*doula*] wasn't there? When she went downstairs, there was just my husband, I felt a lot more comfortable. Felt a lot more relaxed (...) There must be something about, when she came upstairs, it felt like that was our intimate space and the bedroom and it just didn't feel right (...) there's something about changing space from down here to upstairs and walking up and down. **Iris CLU3 (Unplanned)**

9.5.2 Pre-planned spatial strategies to manage people

Felicia and Jasmine designated separate spaces in their home for the midwives, based on first birth experiences. They both wanted control over when they had contact with the midwives:

I really didn't want them wandering in. It happened the first time round with my birth. We had, I think we directed them round the back that time but I had a midwife turn up when I was in the middle of hypnobirthing and nervously asking what I wanted ... surprise, surprise my labour then stalled. **Felicia H.F (Water)**

Because I'd had a birth before and I'd felt a bit like there were just lots of people and I knew I didn't want that this time. Creating a separate space for them was partly a way of saying: "I'd like my own space and here's your space." I don't know if I'd have thought of that if I hadn't of had a baby previously. **Jasmine H.J (Water)**

Both women created a 'station' for the midwives in the kitchen next to the birth room, where the midwives could get drinks and food (Jasmine's shown in *Figure 9.10*):

We have a breakfast bar. I had stuck the birth plan up on the wall in there as a kind of I guess, psychological way of going "that's your space there" [*laughs*]" **Jasmine H.J (Water)**

Jasmine and Felicia were similar in that they wanted the midwives to be nearby but not too close. Felicia said:

I just wanted to be left alone. I wanted them to come in and basically sit in a corner and observe me, in case anything went wrong, and do the absolute minimum intervention. **Felicia H.F (Water)**

Nikko possibly had ultimate control over who accessed her labouring spaces since she could move her boat along the canal to a different location. On her drawing (*Figure 9.11*) she wrote 'moat,' 'protected by trees + large fence ... from outside world' and said:

I made myself a very, very impenetrable space, birth space (...) my home is my sanctuary, my castle, my Fort Knox. **Nikko H.N**

She kept the boat at the moorings for her second baby after midwives gave reassurances they would not come. She knew this mooring had a security gate they could not enter without her permission. The midwives asked for access; the opposite scenario to women who accessed hospital-based spaces in the study.

Nikko developed a very clear understanding of her need to control access before the birth of her first child. For Felicia and Jasmine, this need came from a first experience of birth. Not all the women who birthed at home felt this need. Cassia and Daphne were both first time mothers who had water births at home. They did not proactively make arrangements to control the access of midwives.

Door to birth room closed to the midwives

Area this side of dashed red line where midwives could be in the room with Jasmine

MIDWIVES STATION

TABLE

BATH

POOL

KITCHEN

TOILET

RELAXING

POOL

STAFF

JASMINE'S PROTECTED SPACE

MIDWIVES' station with birth plan in kitchen

Jasmine's protected space in the birth pool

I wanted to walk around and it was easy to do here

Being here made me feel comfortable

I have vivid memories of this space

This space felt very private

Being here made me feel calm

I remember this as an important place in my labour story

I had a strong desire to be in this space

This is where I felt the urge to push

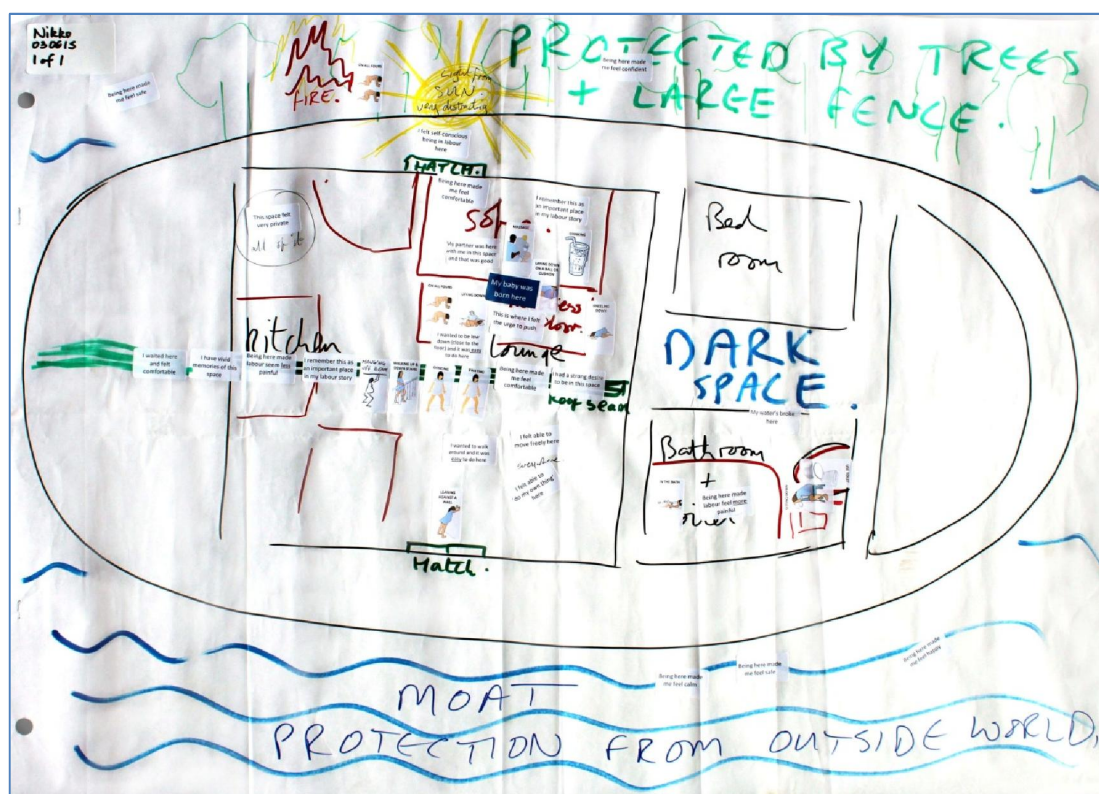
My partner was here with me in this space and that was good

Baby was born here

I was here

My partner was here with me in this space and that was good

Figure 9.11 Nikko's boat as a completely protected birth space



9.6 A BIRTHING POOL AS A DISTINCT SPACE

For the home water births, the birth pool was a distinct defined space in a room. It was often placed somewhere furthest away from any entry points to the house or the room, as Daphne described:

She was born right at the back of the room. She was born in a birth pool right back here. **Daphne H.D**

Jasmine also positioned her pool at the 'back of the house':

This is a room that we come in **less** ... probably partly because it is at the back of the house but that also meant it felt a bit safer, and a bit more ... like a space we could create for ourselves. And because it is further from the front door, and the pool, it was not just that the room is further, but that we obviously put the pool as far as possible as well! **Jasmine H.J (Water)**

Felicia placed her pool in a corner away from the kitchen door, knowing she expected the midwives to be in the kitchen. Cassia placed hers in the kitchen to access water and because of concerns with the weight of the pool, but it also meant it was tucked away in the basement and away from the front door. Only Iris chose to place her pool centrally in the front room and this was problematic for her when the midwife entered the house:

I mean the doula, when she arrived she waited in the car. And she messaged and asked how best to come in because she's very aware of space and things ... [the midwife] just came through the door and sat down! **Iris CLU3 (Unplanned)**

Felicia and Jasmine both used pools in a room where they prevented the midwives from entering until the actual birth. They described the pool as an additional separating space:

Having a pool, in *part*, was about, was for me about that kind of creating a distance so I could have an undisturbed space. **Felicia H.F (Water)**

Yes, it would have probably felt quite nice even if it didn't have water in it? *[laughs]*
You had a barrier. **Jasmine H.J (Water)**

Cassia and Daphne's midwives sat next to the pool and the combination of the sides of the pool and the water took on the role of a barrier (*Figure 9.12*). These women were not particularly looking to exclude the midwives from their space, but at the same time valued that the size of the pool gave them a protected area of their own, on the opposite side to the midwife:

It was quite nice to be sort of cocooned. And not really feeling the need to move around about a lot ... I can't remember what prompted my move from one end to the other really (...) *[the midwives]* would wait until I was out of this little corner, which I wanted ... when we were in that zone they tended to leave us alone. If I was anywhere out of that end then they'd be sort of wanting to put the doppler on and things. It was nice to have a little corner where you could go: 'no, I'm ok now' *[gestures waving away the midwife and laughs]* **Cassia H.C (Water)**

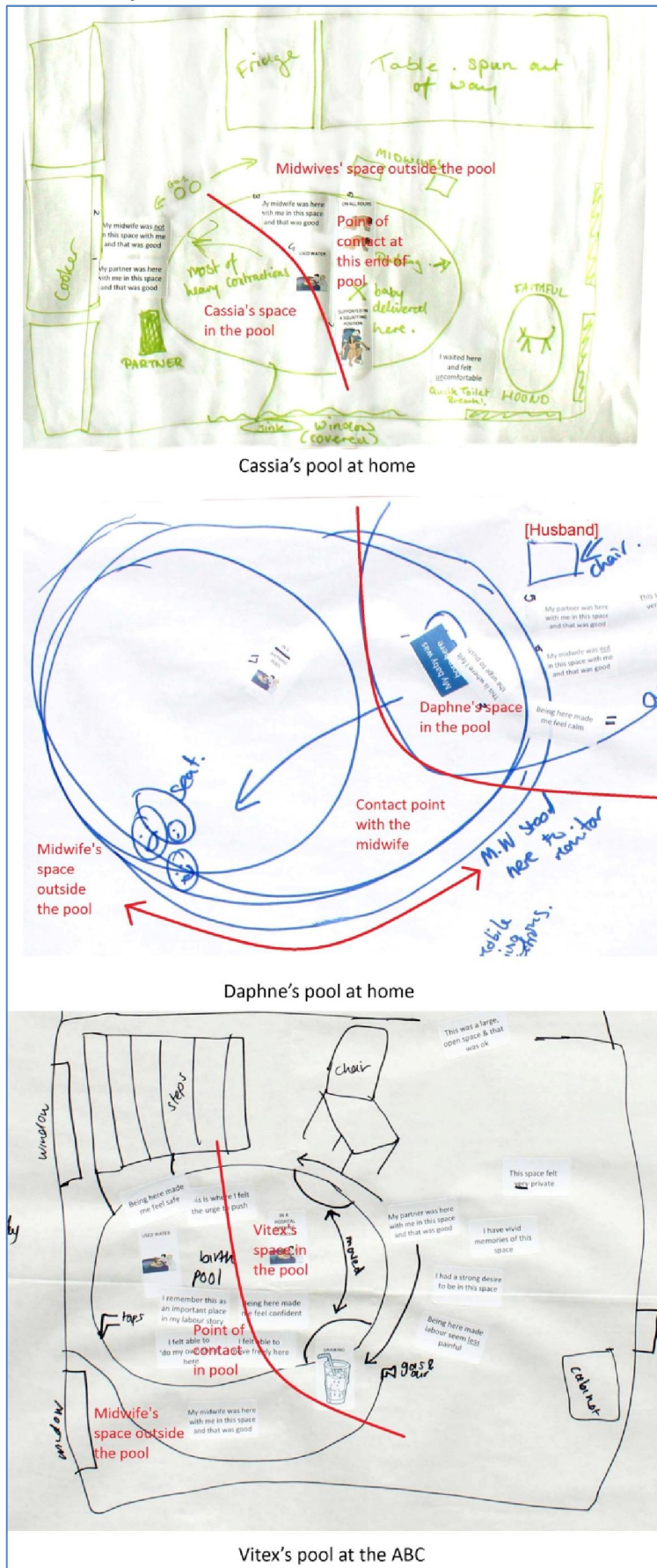
Daphne, similarly, experienced her position in the pool as one that maintained a private space for her and her husband. This sense of a private, almost intimate space led her to feel that here, 'it was just us':

The midwife was here ... and I remember she was behind me a lot, because I was leaning forward facing *[husband]* and she was *obviously* doing all her checks and looking and making sure that everything was going to plan I suppose. But I couldn't tell you what she was doing because it was me and *[husband]* who gave birth to *[daughter]*. **Daphne H.D (Water)**

This demarcation of space was understood by the midwives without an explicit conversation, much in the same way as Cassia experienced it (*Figure 9.12*):

She *never* intervened, interfered in that space ... I don't know if it was intuitive of her, I'm just glad she did it. If she was doing the monitoring she always stood here. **Daphne H.D (Water)**

Figure 9.12 Spatial divisions in a birthing pool:
Cassia & Daphne's home births; Vitex's birth at the ABC



9.7 CHAPTER SUMMARY

Companionship as a social practice is a fundamental part of women's spatial birth experience. Women often talked about proximity to others and whether this was welcome or distracting during labour. Women are most satisfied when they can self-manage their spatial proximity by moving as they wish between at least two rooms. Women's spatial actions are congruent with Reed, Barnes & Rowe's (2016) findings. There are early phases of labour when women physically separate from others, a liminal phase where they withdraw into themselves and a phase after the birth of the baby when they re-engage with companions.

At home, women go upstairs when they want social distance from their companions. Some women who birthed at home would only let a midwife enter certain rooms at certain times. In a hospital context, self-management is possible in "suite rooms" offering multiple spaces. In such rooms, women become less aware of others and the broader context of the hospital.

A more common hospital context experience is for women to vividly remember overhearing conversations, and noises they associate with other labouring women. They cannot manage their contact with midwives and other staff as they wish in most hospital spaces. This social discomfort is most apparent in the curtained bays and the rooms with shared bathrooms. In such spaces, women also feel least able to control how their labour disturbs other labouring women.

Birthing pools represent a distinct space separate from the rest of a room. These are spaces that women can self-manage easily in order to control their contact with companions. Women who labour in a single-space hospital room identify different 'zones' or parts of the room belonging to either: the woman, her supporters, or the members of staff. The majority of the room was identified as belonging to the midwife. These women would have preferred a physical demarcation between the zones they perceived.

Women who freely choose their trajectory between rooms, seek spaces that take them into more and more internal spaces: in the "suite rooms" and at home, these are the spaces furthest away from the entry point to the space. Women physically withdraw into more internal spaces as they enter an internal "other" world (this internal mental world is recognised in Reed, Barnes, Rowe, 2016). Women value spaces that allow an iterative process of physical withdrawal and reconnection with companions, crucially, when the woman wants this to happen. Franck & Lepori (2000) discuss the importance of architects

recognising that embodied spatial experience is always an experience of interior spaces and make similar assertions to Robinson that designers should acknowledge childbirth as an essentially interior activity and experience: 'we are bodies who start inside other bodies' (Robinson, 2015, p.137). This spatial arrangement is similar to Robinson's work (Ibid) on nested bodies and their relationship to architecture, except labouring women usually "oscillate" between spaces before finding a final furthest away space.

Malone (2003) investigated physical proximity as inter-related to narrative and moral proximity in her examination of nurse-patient relationships in a hospital context. Malone identifies that each proximity 'nests' within the preceding proximity, such that physical proximity sets up the conditions that allow a meaningful relationship to form. Therefore for birth spaces spatial practices within the space are significant and have further clinical implications for a woman's experience.

Women who use spatial distance to manage when midwives enter the space, are not necessarily seeking dis-continuity of carer. Purkis (1996) and Malone (2003) note that people can feel cared for without relying on the physical co-presence of a carer. Gilmour (2006) identifies that in hospital settings, the use of technology is increasing in order to facilitate higher staff-patient ratios. Thus as the findings suggest, labouring women are more likely to interact with a piece of equipment than a midwife. The women labouring in single-space hospital rooms felt technology distanced them from the co-present midwife who cared for them through the equipment provided (refer to Chapter 7). Women who guide midwives into an adjacent room at home control their level of comfort with companionship in a space and the spatial distance between them and a supporter. McCourt and Stevens note (in relation to a case-loading midwifery model) that midwives have a 'sense of getting something back from the women, on a personal and professional level, including learning from continuity of experience' (McCourt & Stevens, 2006, p. 17). These findings appear to challenge the idea of a reciprocal midwife-woman relationship with a number of women using space to avoid physical contact.

CHAPTER 10

BUILDING STORIES AROUND PLACE

10.1 CHAPTER OUTLINE

This final findings chapter that follows looks at how the place of birth is significant in how women understand themselves as mothers, their new family unit, and how they pass on birth stories to their children. In particular the role of the spatial context in the moment a woman first meets her baby and the ways in which women build the story of their new family through space-based memories. Women also wanted to remember the specific location of a birth as somewhere that had been uniquely, but temporarily, adapted to their labour and birth needs.

10.2 FIRST THOUGHTS AND MOMENTS WITH THE BABY

10.2.1 Thinking about the baby

Many women said they imagined the first moments with their baby during pregnancy, but were not thinking about their baby during labour. Although Jasmine, Daphne, Felicia, Cassia, Nikko and Iris, all spent time preparing for their birth in their respective homes, they did not prepare a specific space for the baby or indicate a sense of concern for their baby. Jasmine explained why she took this approach:

Just kind of [*things for the baby*] in the house somewhere else. It sounds like I'm not thinking about them but they just need you to start with (...) I can't really remember that bit because it wasn't really important (...) there was nothing, you know there was a Moses basket and stuff upstairs but nothing down here. **Jasmine H.J (Water)**

Women who did think about their baby during labour were often alerted in some way that their baby might be at risk through monitoring, as Vitex's experience shows:

I only had one mild panic really and that was in the birthing pool ... she was trying to find the heartbeat of the baby ... it was quite difficult and he was moving down, for a few times she didn't find the heartbeat? So that obviously made me panic, when I think if she hadn't been trying to find the heartbeat I would never have even thought about it. **Vitex ABC**

Sage found it odd that the maternity unit at the hospital was part of the children's hospital:

I found it really odd it was more like a children's hospital than a grown woman's hospital? Because there was like this sort of, octopus and fish on the walls and stuff ... that was a bit weird. **Sage CLU2 (Induced, C/S)**

When a baby's heartbeat was monitored upon arrival in hospital, this prompted many women to focus on their baby's needs over their own. Rose described how her own hopes for the birth lessened, when there were concerns over the welfare of her baby:

When I arrived at the midwifery assessment unit ... they were monitoring him and they couldn't get a decent trace on him ... anything that I might have wanted for my birth was just basically forgotten about. They were just pushed to one side. **Rose CLU2 (Induced, C/S)**

When women were continually monitored, like Rose and Kerria, this increased their awareness of the welfare of their babies. Being monitored in the early part of induction made Yarrow think about the baby and his safety, but she was comforted by the monitoring rather than concerned:

I had one of those belt things ... which you can hear ... there was a heart monitor (...) I think I find it quite a comforting noise. I don't remember it being obtrusive at all, certainly. **Yarrow CLU1 (Induced)**

Several women resisted the monitoring of their baby's heartbeat because it restricted their movement:

In the maternity assessment centre they'd put the ... that tummy one on ... to hear her movements and ... and so ... I can't bear those monitors ... so like, I wiggled them off! **Urbinia CLU3**

Iris and her husband were unique in setting up a visual focal point in their birth room to remind them of their unborn baby:

Then he put sheets over the walls and the bookcase and then lights, fairy lights and then there's our mantelpiece ... he put a picture of our scan picture there. As like a little reminder. **Iris CLU3 (Unplanned)**

10.2.2 Caring for the baby

Women interpreted that a healthy baby would be held first and not placed in a cot straightaway. Some women really valued a period of skin-to-skin contact after the birth:

I think the cot was brought in after she was born ... we did do a lot of skin-to-skin after birth, so I didn't leave her in the cot for quite a while ... that was our birth plan as well, that we wanted to do lots of skin-to-skin after birth. **Aven ABC**

It was a good hour before they actually kind of took her and weighed her and all that kind of thing. Which is fine, because actually I thought it was more important for her that she was just lying on me and getting some bonding time. **Gardenia CLU2**

I only put her down briefly before the midwife did the paediatric check ... straightaway they put her onto me ... it was just lovely because she didn't get taken away from me, we just lay there. I think if somebody had even tried to, I would have been "grr go away" so I was really pleased there wasn't a cot because I wouldn't have put her in ... I wouldn't use it I don't think. **Urbinia CLU3**

Use of a hospital cot was interpreted as indicating that members of staff controlled the care of their baby. Seeing their baby in a cot was often interpreted as a sign that birth is risky for their baby:

There are lots of reminders that it can be risky *[in hospital]* ... and you're not just thinking about you ... I can't think now whether they have a little, one of those little plastic-y cot things ... so that's another reminder that it's not just about you (...) you're thinking about a little person and you've got to make a decision that's right for them ... the risk is about them not about you. It's almost as if you don't ... really matter when you're there somehow. In risk terms, I wouldn't really think about me ...but when you're at home it feels like you do matter. **Jasmine H.J (Water)**

Urbinia associated the look of the hospital cots with incubators:

I've not really seen one but they look like incubators and then I think it would have felt like she wasn't well? But it didn't feel like she wasn't well because she was with me ... she felt kind of very close and like we didn't need it. I wouldn't have wanted to put her down. **Urbinia CLU3**

Babies needing immediate medical attention were quickly placed in a cot: Briony watched as her baby was weighed and placed in a cot in the operating theatre. She transferred with her baby to the recovery room. It was only in there that she could hold her baby and, as she said, 'got her back'. She identified dressing her baby in the recovery room as her first act of caring for her baby, and the moment when she gained responsibility for her daughter:

She obviously came out *[was born]* ... I think I had a quick cuddle first and then they went and weighed her and then they brought her back ... then she was popped in the cot and we all went round to the recovery room and then we dressed her there and then got her back! *[she laughs]* **Briony CLU1 (Induced, C/S)**

Peony could not see the part of the operating theatre where her baby was taken after the birth. Her baby was quickly transferred from there to a special care baby unit for monitoring. It was some time before she knew the gender of her baby, her condition or care for her for the first time:

They showed her to me, because I'd requested in my birth plan that whatever happens, show her to me, so they held her up ... but all I could see was her bum *[she laughs]* and then they whisked her off, and I heard her cry ... I remember that when she was taken over to this section somewhere, so she was completely out of my eye line and then when they had done whatever they were doing, which I don't know, they brought her in a trolley, a clear trolley thing to show her to me and then whisked her off to NICU. **Peony CLU3 (Induced, C/S)**

Similarly, Torenia could not care for her baby straight away whilst she recovered from a general anaesthetic, and her baby was in special care:

The General passed through the placenta to him so he needed to go into the special baby unit, he needed help breathing for a bit. My partner saw him fairly soon after he was born (...) by then they knew he was ok, but then there was a shortage of porters so I didn't actually see him until nine. **Torenia CLU1 (C/S, under general)**

Torenia first saw her baby about four hours after the birth; she needed to wait for a porter to transfer her to visit him. She was 'quite devastated' because 'everything on the birth plan had been about having skin-to-skin straight away afterwards.'

In contrast, babies were held straight away by a woman or their supporters. It was common for a baby to be held for a long period of time after the birth without being put down. After the birth Daphne's husband 'spent maybe first hour while they fuffed around with me ... with *[our baby]* on his chest with a towel round him.' It was only much later when they both slept that she used a Moses basket for her baby.

10.3 ROOTING THE BIRTH TO THIS PLACE

10.3.1 Personalising a space for birth

Women talked about adapting spaces for birth helping to make the location of a birth feel personalised and unique. This was common for women planning home births who almost universally set up a birth room as a special, planned space. The rest of the house was seen as a labouring space that did not require changes. Most changes at home were carried out in advance of labour except filling a birth pool with water. This adaptation of a room focused on creating somewhere suitable for giving birth and in hospital, adaption was more about making a birth room suitable for labour.

The women planning home births all considered whether to have a birthing pool. Birth pools took up space and often led to significant changes to the room:

One big birth pool ... in this room here and we put the table, there was a sofa there, but we basically put that in a friend's garage. So we had space for the birth pool and that was up from 37 weeks. Just so I knew it was there and fit. **Felicia H.F (Water)**

On the Friday, Saturday morning and Saturday night we inflated the pool and I kind of arranged the room because previously the sofa had been there where the pool was ... that night we re-arranged the room so it was ready. **Torenia CLU1 (C/S, under general)**

What we did, we took the table out and pulled the chairs, *[correcting herself]* the sofa, forward. She was born in a birth pool right back here. **Daphne H.D (Water)**

Only Nikko considered and then rejected a pool after a trial run. Significant personalising acts to prepare a birth space were only possible for women planning home births, since they could also access the space in advance:

I did think about having a pool and had borrowed a pool from my friend, blew it up ... you know it was a trial run of the blow up. We managed that for a few days ... and it was like 'no, I want space to move around' and perhaps growl! ... The pool just did

not give me that because it took up the entire room so I discarded the pool plan and sort of plumped for greater prowling space. **Nikko H.N**

Urbinia described her CLU3 birth room as flexible with furniture 'stored' around the 'edge' of the room when she arrived; she moved items into the centre of the room as and when she needed them. The look of the furniture had also made her feel that she could make a unique layout for herself:

[A hospital bed] **looks** heavy because it's got like all the iron bars and everything. Whereas, I think because of the shape of the birthing couch, it's got movement in its shape and it's, you know that curved shape ... and that's probably less moveable than a hospital bed! [she laughs] In my head, it feels more fluid. The room feels more fluid ... it's more flexible in terms of what you want to do with it ... that's how you can personalise it ... that then enhances that feeling of uniqueness doesn't it because how many people have set up the room that way? How many people ... because I moved where I wanted to be. **Urbinia CLU3**

Adaptations to hospital birth rooms took place during labour because women could not access them in advance and did not know with any certainty which room they would be allocated (Chapter 8). Peony put considerable effort into making her CLU3 birth room suitable for labour: 'I know it was a normal room, so it started off one way, which is the way I'm going to write it down, but then I moved things around.' She saw a need to adapt the birth room to support labour:

It's what we could do to make it an oxytocin friendly environment and that room was absolutely, definitely not! [she laughs] (...) I had the bed moved just this way so it opened out this space and the CTG machine ended up on here because it's on wheels ... some of it had to stay where it was ... I'd say the desk and the lamp ... but the bed, the chair and the birthing ball we could move (...) this was a mat on the floor here ... and I ended up spending all the time sat on the birth ball there, so this is room the second time. **Peony CLU3 (Induced, C/S)**

Women did not talk about expecting to prepare a hospital room for birth. Compared to the women planning to birth at home, it was difficult for women to spend time imagining themselves in the room they would use and therefore difficult to plan out any adaptations to the space. Women who had a previous birth experience with a particular birth venue were more likely to form a strategy for how they would adapt a room for labour this time.

10.3.2 Attachment to the birthing spot

The majority of women easily identified the exact place of birth in a room (by placed the *My baby was born here* sticker on their drawing). Women who gave birth at home expressed significant affection and attachment too. Nikko termed this as the 'birthing spot':

I birthed both my children in this room ... so we're **here**. This is it [she laughs]. This is it in fact just behind where you are sat and on the floor there. Those were the two birthing spots for both of them. **Nikko H.N**

These locations in a home had a venerated status and a strong attachment developed over time. Daphne and Lily both lacked attachment to their home before the birth. For Daphne this was not her ideal house:

I've *never* liked this house. We bought it because it was a good deal ... but we've never really intended on staying here.

After the birth, her attachment became strong:

Now that [*baby*]'s been born here ... [*expressively*] **this house means a lot to me!**
Daphne H.D (Water)

Lily lived in rented accommodation, which she knew she could not be a long-term home. Her everyday use of the bathroom increased her connection to her son as his place of birth: 'I've been able to visit those spaces over and over again and think, every time I'm in the bathroom, oh he was born there.' They marked her son's six month "birthday" by taking a photograph of him in the bathroom. She felt emotional knowing that she would have to leave her rented accommodation in the future:

I'll be **very** sad when ... we move out of here, I will be sad for that reason. I'm leaving it behind and I can never come back to the space where he was [*born*] ... I won't be labouring in this space again. **Lily H.L (unplanned)**

Jasmine expressed a similar sense of loss should she ever have to live elsewhere:

There's something nice about afterwards, that it's a space you can return to as well. So our baby was always born in our house and you know the space. She was born just **there** [*indicates the other side of the room*] We thought about moving house recently but I would feel really sad **leaving** the space where she was born. I don't feel like that about the hospital, don't go back there really anyway [*laughs*]! There's no option to go back to where you've had your baby I suppose, but it would be, you wouldn't be going "ahhh" you know, it just wouldn't have that same feel to it.
Jasmine H.J (Water)

The women who gave birth in hospital did not talk affectionately about the location of the birth, nor did they appear strongly attached to it. Some were glad that they were unlikely to go back into the same birth room again, like Heather who was glad the interview was in her home. The birth was difficult and she received counselling to work through her experience: 'I think **emotionally**, it probably made it easier to draw it here than going back to the hospital.' As Oleander looked through photographs of the room where she gave birth, she reflected on how these affected her:

Actually it might bring back some bad memories if you've had a very bad labour, like me seeing [*the room for her first baby*] ... you know for my first labour ... miserable ... I think that could bring back a lot of emotions for some women. Because I had a good third labour, you know, that's OK I can look at those photos. **Oleander CLU2**

Urbinia's strong attachment to the room was the exception for women who birthed in a hospital. Her CLU3 room felt 'unique':

It did feel like not many people [*used the room*] I don't know if that contributed to a feeling of, I don't know ... uniqueness? That you must get if you do it at home because if you do it at home, you're the only person who's given birth in that house

... I think I almost got that with where I was because they said, hardly anybody uses it and it's not used nearly enough. I felt like it was unique. **Urbinia CLU3**

Urbinia's family visited her in this room and she went home from there, in contrast to the more common scenario of in which women were first transferred to a postnatal ward. She drew parallels with a home birth:

I really knew that I wanted to come home, so my dad arrived and I'd been discharged! My dad and my sister arrived and they saw me in this room ... and so it felt almost like a room in my house, by the end of it. I was so comfortable there that my dad and my sister visited me and it was almost like they were visiting me in my house and I'd only been there an hour or whatever, and then we left and came home but it didn't feel like a hospital. **Urbinia CLU3**

She, and her partner, spent all the time from established labour to going home, in that room. She looked at photographs of the room and I asked her how it would feel to be back in the room:

It would probably bring loads of memories back [...] it was so positive and when she was born, it was definitely **the** best moment of my life so I would probably be **really** happy [*she laughs*] ... It was **the** best moment in my life, better than my wedding, better than anything ... nothing comes close to the feeling. **Urbinia CLU3**

Felicia recalled showing her son where he had been born. The place bound them together: 'this spot connects us,' she recalled saying to him. Having this birth spot as part of her home, she felt she owned the birth as well and wanted to protect this special place:

I suppose looking back now, it's nice to know where she was born. So she was born **there** in that spot [*indicates the place in the room*] and when I was explaining to [*older child*], who was four, where he was born and he was sitting on the loo upstairs and I was sitting in the bathroom doorway and I said, "you were born **right here**" [*said with great joy*]. And he was like, "what **there?**" ... "exactly where I'm sitting." You look back and it's like "oh yes, it was actually there" and you own it a little bit more I think. Because it's in my space and it's in my home (...) My four walls feel like ... every time I think about moving from this house, I get this, like a panic attack, I really like this house. "If we ever moved, could we keep it and rent it out?" So I don't **lose it**, lose it, lose it. **Felicia H.F (Water)**

Torenia's caesarean birth under general anaesthetic meant she had no memory of the birth or of the first moments that she had planned as special time after a birth at home. She found this experience particularly difficult because she felt she did not given birth:

Afterwards I remember feeling I'd kind of failed because I wasn't really there. I didn't remember it ... I had labour but hadn't given birth naturally. I was glad that he was OK and I know it was the right thing going into hospital ... but I still, in fact, I still feel now that I haven't really given birth. **Torenia CLU1 (C/S under general)**

10.3.3 The birth space as a memory not a permanent place

The women did not expect that the location would stay as it was set up for the birth. Aven did not feel right about staying overnight in her ABC birth room with the birthing pool. She did not use the pool for the birth but she associated it *with* birth, as a stage that she had

moved beyond:

It was quite odd, because we actually spent our first night together in that room with the pool, whereas with *[first birth at CLU1]* I left the room I gave birth in and went up to the ward and we stayed all night. (...) She did ask me if I wanted to go in the pool or in the bath afterwards but I decided to go and have a bath and get sorted with her.

Aven ABC

In consultant-led hospital rooms, women preferred to return to a clean bed in the birth room rather than the postnatal ward, which was seen as busy and noisy:

I think sleep is so important and being able to have a bit of privacy ... wards for people just going onto after having babies are very noisy wards, because you've got the baby, you've got visitors, you got the women all very emotional and either hyper or knackered or whatever ... so no, it was really nice to be down in there for a few extra hours. **Yarrow CLU1 (Induced)**

At home, women wanted the birth room to quickly return to normal; they removed themselves from the birth space whilst others completed this task. Jasmine quickly left her dining room where she gave birth and wanted all the birth equipment to be gone before she re-entered. In the days and months after the birth, she valued being able to spend time in the place where her baby was born but she did not want to see the evidence that the birth had taken place. For her, this expressed the 'new normal' of their family that now included the baby:

I didn't want to go back in here ... didn't really come back in here *[room where the birth took place]* for quite a while after, the next day or the day after that. I wasn't then interested in this space at all really *[laughs]*. I was hoping that by the time I came back in here there was not really any sign of it having happened anymore? That sounds like you don't want to remember it, but more just all the kind of equipment and everything got sorted and all this stuff ... didn't need any of that anymore. I just wanted that **gone** and it be back to being 'our house' and as if it was then **always** just the four of us. Just the new normal and so it could stay like that but without having to see reminders of before she was here because that was the "old life" before she was around. **Jasmine H.J**

Daphne's birth took place in a room where she could move away from the birthing pool and yet still remain in the same room. After the birth, the room was large enough for everyone to move away from the pool. The midwives occupied one side of the room and Daphne and her partner went to the opposite side. She concluded that everyone was avoiding the pool:

My partner was here with me **after** birth, does that make sense? So the **midwives** were *all* in this space after the birth. So the midwives were sat ... they kind of dumped all their stuff *[circles space in corner of room away from birth pool]*. So this became, like, the "midwives' bay" after the birth *[draws on the bean bag repositioned and writes "midwives bay"]*. I don't think anyone wanted to be near the mingy birth pool after *[laughs]*. **Daphne H.D (Water)**

Felicia moved to another part of the birth room, away from the pool and described this as entering the next stage:

We waited for a while. I think I was getting a bit cold [*in the pool*] I think I was encouraged to get out and get warm and get on the sofa and get wrapped up and have a warm drink and stuff. So I was all kind of bundled up there [*laughs*]. Kind of - next stage. **Felicia H.F (Water)**

Women who used “suite rooms” valued the opportunity to move to a different space after the birth:

I gave birth in this part and then I went in there [*other half of the room*] and we didn't really go back into here after I'd had him, but that was quite nice in a way, to move away. It was better than that, you know if that wall wasn't there and it was all one thing. **Vitex ABC (Water)**

After a birth at home women often retreated to their bedroom with their partner and baby:

The doula tucked us all in bed and put the key through the letterbox: couldn't have been better really. And we didn't have to go anywhere, we didn't have to do anything. **Felicia H.F (Water)**

Everybody left, we all went to bed in our bedroom. And I've got some photographs of me and [*my baby*] just looking out. I suppose that then became the important space. This was the birthing space and then that was the space where we went to just be calm. And you know it was almost like the calm after the storm, everybody just left, left me [*my baby and my husband*], just to ourselves. And that was really nice and we had tea and then we went to bed. We were knackered. **Daphne H.D (Water)**

Daphne indicated the need for rest after the birth: she had felt necessary to leave the birth room and go elsewhere to find a calm place. Both Felicia and Daphne communicated the idea that this retreat signalled a change of dynamic in the house, particularly in relation to people. They described the moment when the birth attendants left the building as significant in signifying the beginning of the formation of their new family group.

10.4 CHAPTER SUMMARY

Many women connected the location of the birth with the formation of their new family in their birth story. Stories are the way that people make sense of their lives (McLean, Pasupathi, & Pals, 2007). In the thesis study, women retell a child's birth story as part of intergenerational storytelling and as a way of embedding the experience within the spatial context within which the birth took place. The role of place-memory in birth stories is a recent area of interest in midwifery research (for example: Lock and Gibb, 2003; Reed, Barnes & Rowe, 2016) which could be explored further in spatial terms.

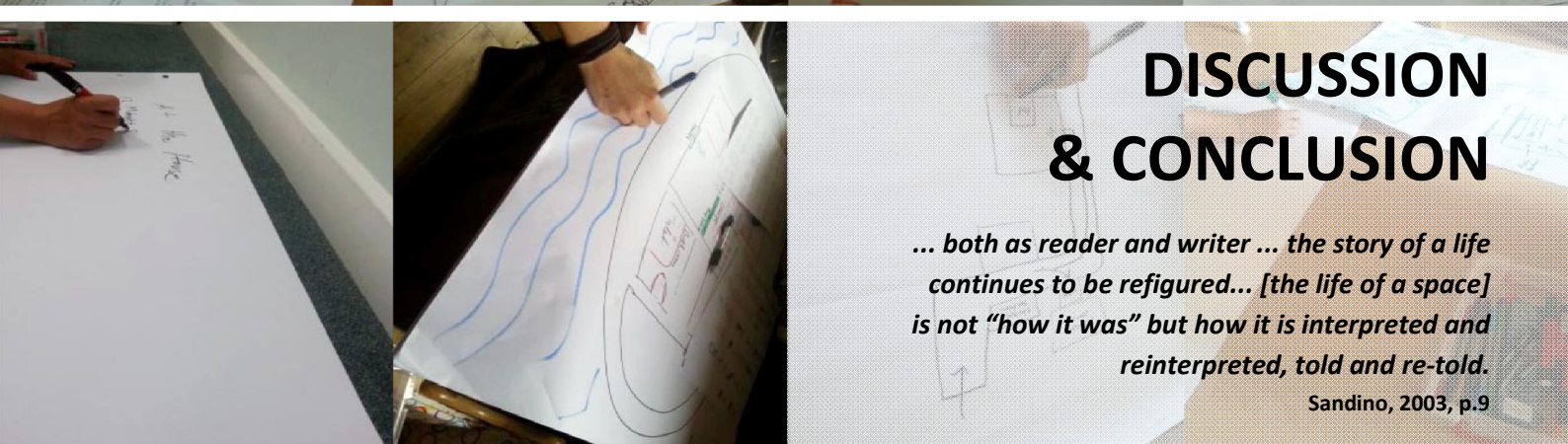
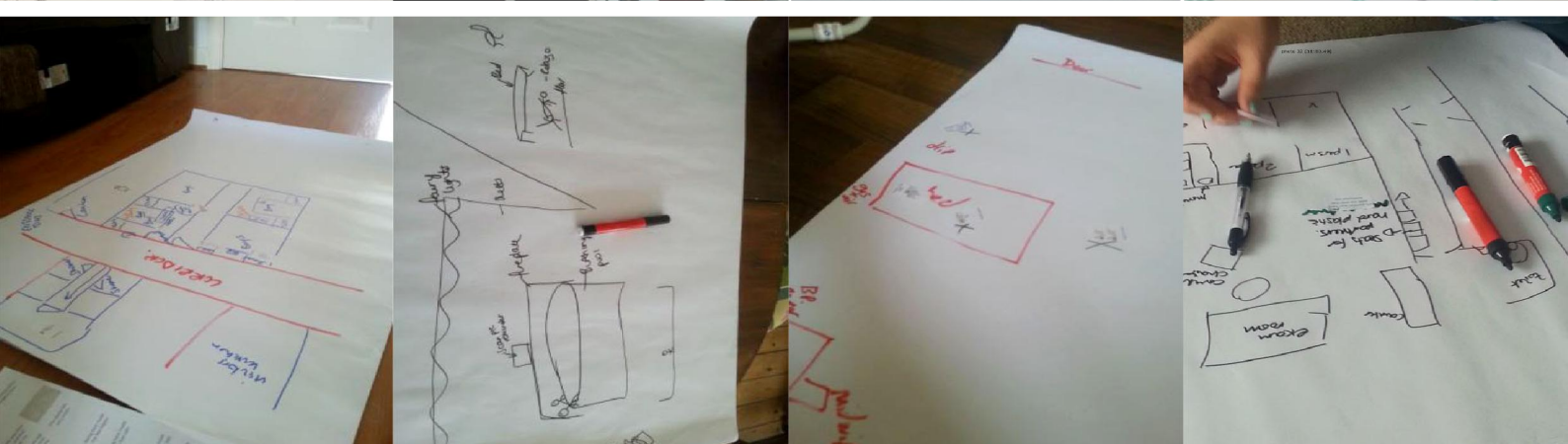
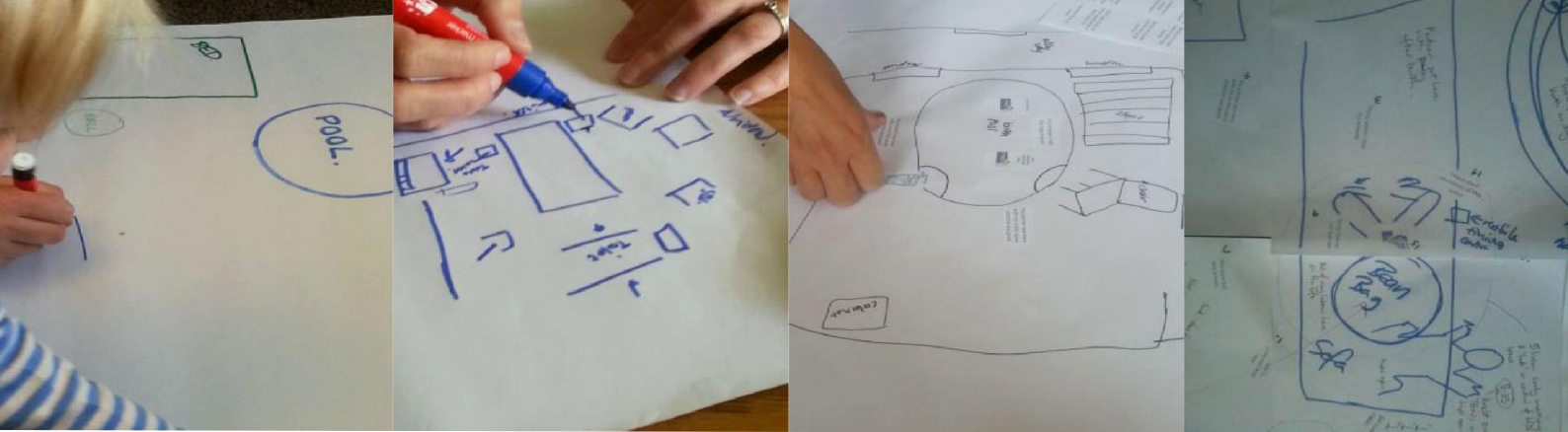
The home birthing women's made the 'birthing spot' a pivotal focus for their mother-child relationships. Elizabeth Stone notes the importance to families of creating stories to 'make a place for the newest member – to welcome, define, or identify the child ... and somehow fit into the family and its definition of itself' (2017, p.73). Women centred home birth stories on the physical birth location that is accessible to family members as part of day-to-day family life as a means of sharing, developing and reinforcing a child's birth story:

thus, creating intergenerational received stories for child members of a family that form part of their identity within a family (Jorgenson & Bochner, 2004). Family stories influence a child's attitude to future events in their life such as when they become adult and have the opportunity to give birth to their own children (McAdams, 2001; Merrill & Fivush, 2016; Thompson et al., 2009). Women also used their birth stories to welcome, define and identify themselves as a mother and the spatial context of the first meeting with their baby literally set the scene of this experience.

Many women wanted to remember the birthing spot as somewhere that had been uniquely adapted to their needs: something women could easily do at home. Women became deeply attached to the physical birth 'spot' when this was in their home. Ownership of the birthing spot was important to these women and home-based 'birthing spots' became part of a woman's day-to-day living. Urbinia identified that by spending a prolonged period time in the room after the birth, she had developed a similar affection for her room in CLU3. Some women suggested that they would have a negative emotional response to being in the hospital birth room again and were glad the spaces used were not part of their everyday life. Torenia was the only woman without a memory of where she gave birth and not having this connection to the place made her feel that she had not given birth.

A woman's emotional connection with the birth space also appears to be a form of personalisation of the space, as she re-iterates and develops a birth story to share. The standardised nature of designed birth spaces as separate physical spaces to those a woman uses for family living does not afford opportunities for the birth place to be easily incorporated into intergenerational storytelling. Women who birthed in hospital did not mention the 'birthing spot' with similar emotion to that shared about home births. This may relate to the cultural context of a hospital birth room as somewhere where many births take place, making the site of each birth seem less significant in the space. Listening further to women's birth stories will develop the social value of birth space design and its connection to family and personal identity.

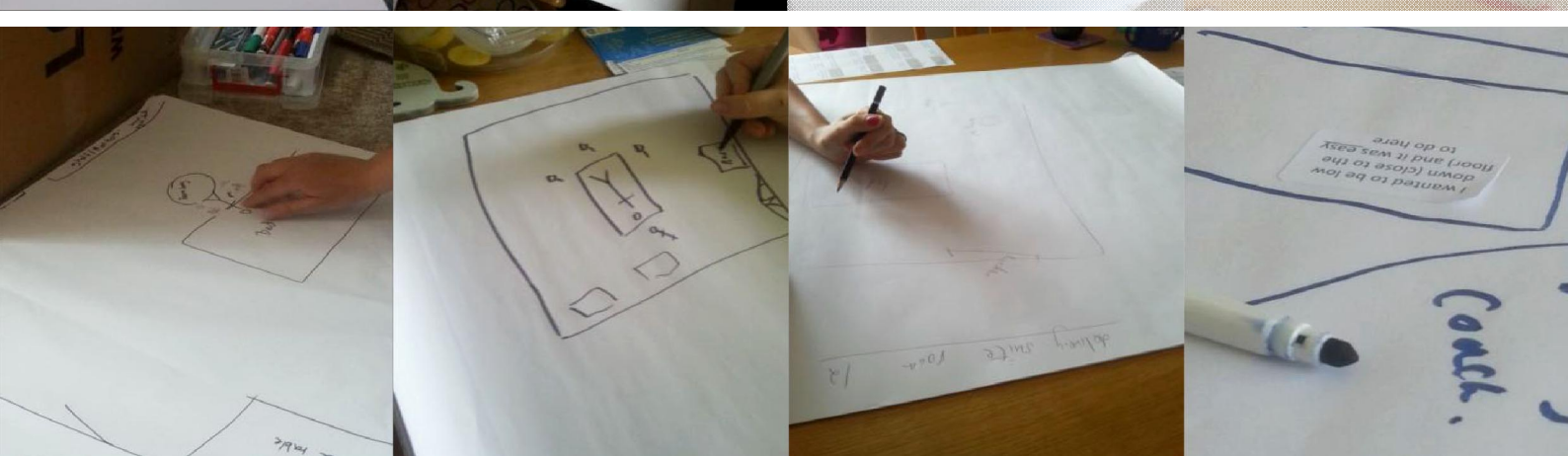
The thesis draws conclusions in the final section that follows. The discussion and conclusion chapters discuss birth space design in light of the findings and propose new ways for understanding birth spaces.



DISCUSSION & CONCLUSION

... both as reader and writer ... the story of a life continues to be refigured... [the life of a space] is not "how it was" but how it is interpreted and reinterpreted, told and re-told.

Sandino, 2003, p.9



CHAPTER 11

DISCUSSION

11.1 CHAPTER OUTLINE

The preceding chapters build a picture of birth spaces: constructed firstly through the context of policy, practice and research literature, the thesis methodology, the production of space through policy design guidance, and finally through women's experiences of birth spaces. This chapter explores the spatial implications of the findings with reference to design guidance for maternity facilities (Section 11.2) and core themes that emerge in women-centred care (Section 11.3). This discussion draws together all the preceding work of the thesis, in order to formulate a response to the research aim in Chapter 11.

11.2 RE-INTERPRETING POLICY DESIGN GUIDANCE

11.2.1 Women's experiences and the design strategies of the designers

Women's experiences of occupying birth spaces are rarely sought by designers and therefore an architect may never know when the design intent is unhelpful to labouring women. Le Corbusier claimed that "architecture is made in the head", then drawn' (cited in Colomina, 1992, p.115) and described architecture as a visual form. This reflects a common Modernist idea that a building is a 'self-evident form' (Rose, Degen, & Basdas, 2010, p. 334) derived from the design brief and the functions of the layout and spaces. The design of birth space is particularly problematic for the contemporary architect who is used to interpreting a client's design brief into a spatial form. Giving birth is a spatial practice by labouring women that works best when it is undisturbed by observation (Buckley, 2003). How is the architect 'to look/observe/see/imagine/invent, create' (Le Corbusier, 1963) in advance of an unobserved event in a woman's life, acknowledging that each birth experience is a singular, unrepeatable event in her life.

The experience-based approach to the thesis shifts the focus from birth as *doing*

(moving, behaviours) to birth as *being* (relationships, personal meaning and the social aspects of space) in the birth space. Balabanoff (2016) similarly notes that women's birth experience can be conceptualised as embodied and 'intricately connected' (2016, p.13) to the environment, rather than the medical view of the labouring woman's as a body needing "fixing" (Ibid.). Some architects refer to this as 'embodied architecture' (Grosz & Eisenman, 2001).

The functionalist, techno-rational design principles common in maternity facility design are re-assessed within the thesis. Approaching birth spaces in a manner that is grounded in women's experience is activist architecture that proposes alternatives as well as replicating societal norms 'as an art form [that] questions and pushes society' (McCann, 2011, p. 498). It reflects a similar shift taking place in midwifery, which is a move away from labour understood with 'a positivist epistemology based on simplicity, linearity and certainty ... with a singular cause and effect physiology ... proceeding with regularity ... to end with birth at a relatively predictable point (average of 10 hours)' (Walsh & Evans, 2014, p.e2).

Lepori describes birth rooms which have a similar appearance to those depicted in the photographs of *HBN09-02* as 'fleshless skeletons' (2008, p.97) waiting for occupation. The user visually consumes these spaces, but is not part of their production; production is left to the expertise of professional designers⁸¹. Representations of architectural interiors, particularly architects' own photographs of their buildings, tend to show an empty space for anticipated use (Colomina, 1992, p.83). Occupation is implied in a theatrical way, with the actors waiting 'slightly off stage' (Ibid.) and a camera focused on a space as a stage, with scenery and props (Ibid.). Women waiting in hospital occupy space in this position: as an observer and not a creator of space.

The thesis expands the understanding of spatial practices and identifies the social implications for women of, for example, the inclusion of a bed in a room. In its challenge of medicalised birth, midwifery practice often focuses on birth as a physiological experience (Leap, 2012). Midwifery scholars interpret a hospital bed in a birth room as signifying medical intentions in the management of birth (Walsh, 2000). Raising the height of the bed for a woman to lean over is a signal of a more midwifery-led philosophy of care (Ibid). The findings demonstrate that there are other spatial uses of hospital beds as room dividers and barriers when women are mobile in a room. When a woman lies on a narrow hospital bed, it becomes an object that separates a woman from her companions - as the person who

⁸¹ Clinicians, architects, engineers etc. as these professional designers of birth spaces.

needs to be cared for, observed and monitored.

Understanding birth from experiences of birth suggests that physiological needs may have lesser importance than social needs. A physiological understanding of childbirth comes from observing and measuring women during labour, and not from listening to women's birth stories. Women do not initially link birth as a physiological experience to space and do not need to discuss labour postures – in many interviews a discussion often arose after the prompt of looking at the *Picture stickers*. Potentially, this is because women tend to be less mobile in hospital spaces than at home for a number of social and physical reasons. There is no intention to suggest that relating labour physiology to birth space design is not woman-centred. Rather it acknowledges that many realities interplay in a birth space. A physiological interpretation is one reality, and social spatial practices are equally important in women's experiences.

Women are not seen as producers of birth spaces in the execution of build projects, in research studies of birth room designs, and the auditing of maternity units. The role of women is often confined to that of consumers who validate the findings of experts⁸² or express their opinions on the aesthetics of birth rooms. A scientific community is effectively the professional producer of maternity facilities through evidence-based healthcare design, and the favouring the use of evidence from a scientific-medicine domain to inform design. Collins and Evans argue that the scientific community often has 'special access to the truth' (2002, p. 236) in deciding what is important within health policy. The sciences are as much constructed forms of reality (Martin, 1998) as women's experiences which are undervalued in comparison. The production of birth spaces is a form of 'technical decision-making' (Collins & Evans, 2002, p. 236) defined as 'those points where science and technology intersect with the political domain because the issues are of visible relevance to the public' (Collins & Evans, 2002, p. 236). Women's embodied experiences of labour can be argued to have more "truth" than technical knowledge of birth spaces because it reveals the space in use; design only reveals the intent of the commissioner of the design (De Carlo, 2013).

Architects tend to have in mind a 'normal body' (Imrie, 2003, p. 47) when they are designing. This is the human form defined in terms of ergonomics and dimensions for building elements (Ibid.). The movements and postures of a labouring woman differ from this more generic understanding of a building user. Designers do not have ready access to

⁸² These experts are usually researchers, midwives and obstetricians.

data on how labouring women use space, or what types of spatial layouts would facilitate women in upright postures for labour. Lepori recognised that labouring women have distinct ways of using space and studied these through sketching woman in labour postures⁸³ in order to design furniture for birth rooms (Franck & Lepori, 2000). The layouts shown in *HBN09-02* imply that birth spaces are designed for a generic woman to use – a woman conceived as a patient on a bed. The design strategies for birth spaces are those of modernism in that they imply an abstract user as ‘the universal human being’ (De Carlo, 2013, p.16) whose future occupation of the space is anticipated through technical and material considerations. De Carlo argues that this universality of user need is ‘illusory’ and based on a reality that ‘ends up mirroring the interests, values and codes of the power structure’ (Ibid.). A more woman-centred approach to birth spaces would recognise ‘architectural design as an intercorporeal and intersubjective act that creatively refigures sedimented spatial and social habits’ (McCann, 2011, p. 487).

11.2.2 The familiar and home

Jordan (1992) noted that, although it is trivial to point out that birth must take place somewhere, where it takes place has to be someone’s territory, a spatial and social expression of the ideas and identities of who controls the territory (Fahy, 2008b). Home as the familiar territory and hospital as the strange for a labouring woman is a common theory in midwifery literature (Lock & Gibb, 2003). Women are familiar with the idea of labouring in hospital and hospital as the place for birth. In the thesis, women found home to be a strange territory for labour. A place where they could not feel certain of their own experience and needed professional confirmation that labour was real – similarly to the work of Barnett, Hundley, Cheyne, & Kane (2008) and Nolan & Smith (2010). In antenatal education, like that attended by the thesis participants within a hospital setting, there is an assumed familiarity on the part of educators that women will know how to labour at home.

Women in the thesis laboured differently at home depending on whether they intended to give birth at home or transfer to hospital to give birth. When planning a home birth, women felt comfortable with labouring at home and made use of many different rooms. Those planning a hospital birth experience “getting the timing right” of when to go into hospital as an anxious and challenging task. The timing of this transfer is seen to be controlled by midwives, in their telephone conversations and in the assessment of women in the maternity assessment centres. Women are encouraged to stay at home in early

⁸³ However, only Lepori’s designs are published, rather than the data which fellow architects could interpret for their own designs.

labour in many NHS Trusts. This is based on studies of home birth (RCOG & RCM, 2007), and women admitted in the latent phase of labour experience increased labour intervention (Holmes et al., 2001). Similarly to Nolan and Smith's findings (2010), women often feel the advice to stay at home is professional-centred rather than women-centred (Nolan & Smith, 2010). They wait at home as if labour is "on pause" and feel unfamiliar with how they might make spatial use of their home.

Significantly in the thesis, rooms described as by women as "homely" do share qualities but they are not the aesthetic qualities traditionally associated with domesticity and interiors. Instead they have spatial qualities that express a woman's social relationships and can be modified by a labouring woman. There is scope for architectural theory to redefine homely as a specifically birth-related form of architecture through critical spatial practices.

The domestic scene is no longer shaped by women as it was in the past. Prominent architects in the Twentieth Century - for example, Frank Lloyd Wright - formed paternal relationships with female clients. Housing is primarily realised by male architects and this can lead to men guiding female clients through the practices of builders and the technicalities of construction (Friedman, 2006). At the same time, a woman having control over the interior marks a change from nineteenth century ideas of domesticity; creating new roles for women 'by redefining the terms of domesticity itself' (Ibid., p. 16). Agency is not something readily-associated with domesticity (Heynen, 2005) and therefore it is not certain that giving birth surrounded by a domestic aesthetic is an empowering experience when it reminds women of domestic duties.

Modernist architecture has re-defined the home as 'a space whose limits are defined by a gaze' (Colomina, 1992, p.128) as photographed images of interiors are valued as part of design. Contemporary home-ownership does not necessarily imply the same notion of "dwelling" as when our aesthetic concepts of domesticity first emerged in the Nineteenth Century (Berger, Berger & Kellner 1973). Modernist understandings of interiors are viewed as making people metaphorically 'homeless' (Ibid.) as fashions change and desired qualities within a home change. Berman (1983) notes that the modern condition is such that nothing is stable or fixed; whereas ideas about domesticity imply a static set of predictable spatial qualities (Heyman and Bayner, 2005).

The combination of hospital as an unfamiliar place and labour as an unfamiliar experience, may explain women's focused attention on the labour behaviour of other women in the same space as them. Women "took turns" in a hospital-based waiting process with other women, something Lock and Gibb describe as the awareness of 'the

ghosts of all the other mothers competing for care' (2003, p. 136). Conversely, the women at planned home births had strong and pre-existing social ties to the people who were in close proximity (such as doulas and partners) and were the only woman experiencing labour. They kept the unfamiliar midwives at a distance until they decided they could enter their protected birth space. The midwife at a home birth is understood to be a guest of the woman (De Certeau et al., 1998) and the findings provide rich detail on how women use space to manage this relationship.

Morison et al. conclude that at home births 'overall, greater emphasis was placed on the social rather than the physical environment emphasising that birth is a social as well as a physiological process' (Morison et al., 1998, p. 238). However, women can recall their social encounters within hospital rooms that they can also describe visually as an equipment-based medical setting. The thesis demonstrates that when hospital birth is re-conceptualised spatially, it is just as social as it is already acknowledged to be in the home. A hospital context exposes women to more strangers than at home and a larger number of social interactions with people of different roles: cleaning staff, maternity health care workers, midwife to consultant level obstetrician. This social context is different to home, but nonetheless these encounters were important to women. Research studies often favour home birth examples for examining the social qualities of women's experience of home birth (Edwards, 2005; Sjoblom et al., 2006). For example, there is much less research into the social and spatial experience of assisted birth than any other type of birth. More research is conducted on women's experiences of caesarean births, which tends to relate their experience to subsequent birth choices, such as vaginal birth after a caesarean (Fenwick, Gamble, & Mawson, 2003).

11.2.3 Maternity units as a trajectory towards a single birth room

A woman's trajectory through hospital spaces is guided by healthcare professionals and only forms a section of their birth story. Women differ in which events they identify as the start or end point to their birth experience. The timelines of birth stories are unique to each woman in contrast to the medical stages of labour that determine the layout of maternity units. Design guidance for the birth environment as a single room and the layout of maternity facilities is mismatched with women's embodied experience.

When women perceive resources as scarce, they change what they value about rooms and just having any room to themselves becomes important to them. They also place significance on successfully staying in the hospital building after their first arrival during labour and not being "sent home". This leads to women feeling lucky and tolerate rooms

they interpret as stores or for other hospital activities, since this implies they have made it into the building.

Women who start their hospital journey in a curtained bay were often just as inactive in the birth rooms they used later⁸⁴. Earlier rooms “set the tone” for how women use subsequent spaces. Thus, being inactive while waiting in a ‘medical’ space, such as the curtained bays of an assessment ward, moderates the physiological advantages of later labouring in a midwife-led room with active birth equipment. Women describe the bays on a ward as having furniture that designates roles - woman as patient on bed, supporter in a chair - and the monitoring equipment makes them aware of potential risks to their baby. In later rooms, they and their supporters continue to use furniture according to the role and position established in the first room.

The spatial management and overall layout for hospital-based venues is arranged in order to use space in the most efficient way. Women interpret the management of assessment areas as focused on encouraging women to go home if not at the right point in labour; and laid-out as a ‘holding station’ so that not too many women access the birth rooms at the same time. Women also have expectations on the type of room they should be in at any given stage of labour. This is most evident for women who respond to birth rooms as if they are waiting rooms. Women also interpret their assignment to a birth room as a commitment that the room is theirs until after the birth and become reluctant to then swap to a different room.

Women move in a linear way through the building but this does not flow like a production line as discussed in Walsh’s work (2006b); it is more of a stop-start process with a great deal of time spent waiting. Women identify the stop-start movement between hospital spaces as difficult. Companions must stay with them at all times and they cannot leave their possessions in other rooms for use later in labour. At home, a woman can effectively place her possessions in any room, and occupy an adjacent room to her supporters and midwives if she so wishes.

11.2.4 Birth spaces as equipment-based rooms

Midwife-led rooms are often refurbished with Active Birth equipment, but the thesis shows this is not sufficient for women to interpret the space differently to other hospital spaces. *HBN09-02*, and to a certain extent the *NCT Tool*, emphasise equipment as an important part of a hospital setting. They differ as to whether the equipment should be medical, or labour

⁸⁴ Other factors also contributed to this inactivity, such as medical interventions.

aids for physiological birth. Women saw the Active Birth equipment in the ABC rooms but did not readily use it. They had no more familiarity with how to use this midwifery equipment than they had understanding of why certain medical equipment was in their room. One woman experimented with using a sling⁸⁵ and then the midwives asked her for advice on how it can be used. The techno-rational paradigm is still apparent in the design intent of Active Birth and midwifery-led spaces: medical technology is simply replaced with a different type of technology.

When space and objects are considered in technical terms of form and function, their situational and social meaning is lost. Objects and spaces need to be created and this necessitates a “design process”. Maier and Fadel note that Norman’s (1988) definition of affordance gives the designer, and not the user, control over form and function. Labouring women create a different type of affordance in their interactions with space and objects; affordances created “in the moment” rather than pre-produced by the designer.

For the home births, women prepared a room with a pool specifically-designed for birth and as a spatial focus of their birth experience. This contrasts with Morison et al. (1998), who found that couples use simple equipment for home births that is not birth-specific or ‘a focus of the birth’ (Ibid., p. 237). A pool is usually borrowed or hired: this suggests that a pool may not be perceived as “specialist birthing equipment” by women who borrow a pool from a friend or a community group who know the woman. Alternatively, this could also show a common understanding that a space needs to be adapted for birth through the use of specialist birthing equipment.

11.2.5 Labour experienced as a series of closely-connected interior spaces

Women remember the interior spaces as part of their birth story in an embodied way. It is primarily within rooms that the women interpret the social world, giving meaning to the layout and fittings in the room. The thesis focuses on the inside of buildings because this is where women spend most time in labour. Some women described time spent outside in terms of natural features, such as trees and grassed areas, but none described the outside of the building when they arrived at a new venue. Architects recognise that buildings are experienced from the inside (Franck & Lepori, 2000) as embodied spaces, that is, spaces where people ‘organize, inhabit, and structure [their] living arrangements’ (Grosz & Eisenman, 2001, p. xix). People do not occupy the space represented by the external facades of buildings (Grosz & Eisenman, 2001). As Benjamin observes: ‘... to live is to leave

⁸⁵ This was after seeing similar equipment in use on a TV programme.

traces. In the interior these are emphasised ...' (1968, p.74).

In contrast, the outside of buildings can be a primary focus for architects working at the large scale of a hospital (Day, 2017). *HBN09-02* guides architects at a whole building diagrammatic level on the layout of space. Architects may be better able to design for women's embodied needs with a shift from focusing on the large scale of building form to the scale that women experience rooms. In the thesis study, women's spatial experience was informed by proximity, that is, they recalled things that were close by, such as touching a kitchen worktop, or seeing equipment on an opposite wall.

Women's experiences of spaces were also a lot messier than the photographs of pristine birth rooms in *HBN09-02* might suggest. Quite often women cannot find anywhere in a room to put their bags in rooms described as cluttered with equipment. A number of women did not draw the walls around a room as if these were not important parts of the space. Design guidance shows a particular conception of birth spaces derived from understanding childbirth in medical terms; this does not help architects understand what it is like to inhabit these spaces during labour. At a conceptual level, it is also unhelpful that interior spaces are so closely associated with domesticity (Rice, 2007), with the implicit assumption that an intimate interior space must have the appearance of domestic space.

Birth space is better conceptualised as a series of closely-connected interior spaces. Examples of the form of these spaces are rooms nested within each other, spaces accessed over different floors of a house, or a number of connected rooms between which a woman can "oscillate". This concept both elevates the value of interior spaces within architectural design practice and, also, the importance accorded to women's knowledge. Historically, architecture has been a masculine gendered discipline and interior design 'the feminine counterpart discipline' that 'fills in non-structural detail' (Weinthal, 2016, p.139). Rendell (2016) notes the marginalised and gendered position of the domestic and the interior in relation to mainstream architectural discourse. The feminist critique of Derridean deconstruction has opened up discussion of "both/and" in terms of architectural position and elevated subjects (such as childbirth) placed on the margins of mainstream design and architects' experience (Ibid.).

Birth space has, up until now, been considered as a 'developed surface interior' (Evans, 1997) because a birth room has the appearance of a rectangular box that has been conceived on paper. During the design process, architects tend to imagine the physical form

of a building through images. Lefebvre describes this tendency within design practice as creating space ‘made to be seen and to be seen from (thus reinforcing ‘pure’ visual space)’ (Lefebvre, 1991, p.361). This formation of space reduces the opportunities for occupants to interact with a space, as their experience is reduced to the ‘world of the image’ (Ibid.) as a result of the design process. Design guidance shows birth spaces as two-dimensional surfaces through room data sheets and design tools. For example, the photographs in *HBN09-02* show rooms as a series of elevations: designing in this way ‘fractures’ (Ibid.) the space into a number of surfaces to be designed. This is a different conception of space to the three-dimensional embodied experience of an occupant. The thesis gives evidence of the other “missing” dimensions of the social world of labouring women and their embodied interaction with space, not surfaces.

A deeper understanding of women’s experiences is possible when design acknowledges how a space becomes more “messy” when someone occupies it and that there is a unique process of “creative mess” in the occupation of space for childbirth (Bloomer, 1992). A birth space takes many forms depending on when it is examined. A woman might also perceive a different space whilst pregnant compared to when she is in the same space holding her baby. The “mess of occupation” therefore differs depending on whether it is ante-, per-, or post-natal time.

This concludes the discussion of the findings in relation to the design intentions of the designers who produce birth space. Section 11.3 that follows considers the findings in relation to woman-centred policy goals. Spatial aspects of these goals (the three Cs and personalisation) are at the core of women’s embodied experience of labour and therefore the spatial practices within birth spaces.

11.3 SPATIAL INTERPRETATIONS OF WOMAN-CENTRED CARE

11.3.1 Spatial choice

Section 6.4 highlighted several themes on planned venue choice that emerged from the varied explanations that women gave for planning to use a particular birth venue. When women’s spatial experiences are interpreted as women making choices, especially between different venues, this reveals much about the limited spatial choice women often have during labour itself.

The spatial proximity of potential birth venues, and the high- or low-risk categories of birth rooms that they represent, are significant within women’s experiences. For example, the spatial relationship between the ABC and CLU1 meant that a woman who gives birth at

CLU1, has usually transferred from elsewhere and not actively *chosen* that venue. Women who know there is only a short corridor between the two venues, often become upset when they are transferred from the birth centre to the consultant-led labour ward; they recognise their lack of control over such a transfer. Spatially distinct boundaries between midwife-led and consultant-led rooms aid women in constructing their understanding of the layout of a birth venue in terms of the care they can expect to receive. For example, women value the physical distance between home and hospital when planning a home birth. These women are reassured that they are likely to only received midwife-led care.

When rooms of differing categories are in close proximity to each other, women are anxious about labouring in consultant-led rooms, since they are aware that alternative midwife-led rooms are close by and seemingly only available to other women. Women in this situation are often acutely aware of their lack of spatial choice. This echoes the words of Ardener, that the 'perimeters of the categories' that 'codify' the birth space are important for 'the way people pattern their perceptions' and 'how we cope with some of the problems that arise from the existence of these boundaries' (2000, p. 15). Women perceive a hierarchy of room categories that leads to feelings of anxiety and uncertainty before being allocated a birth room. These feelings continue when women interpret their room as high-risk, but women feel a great sense of relief upon entering a room considered low-risk.

The most significant boundary is the threshold of the birth venue building. Woman's choice of which room they can occupy and its layout stop upon closing the front door of their home and entering the threshold of a hospital building. On antenatal tours of a venue which offers a variety of midwife- and consultant- led rooms, midwives often present this to women as representing a greater choice to women. During labour, women do not select the rooms they occupy at any given time, and often feel restrained from changing the existing room layout. Gilmour (2006) notes that home-like hospital rooms can also serve to demarcate staff territory within a hospital. Midwives may promote homely spaces to women on antenatal tours as a way of 'carving out' their territory within the hospital rather than these spaces 'signalling increased patient agency and physical freedom' (Gilmour, 2006, p.20). This contrasts with women who plan home births and have a free choice of which room to occupy and when to do so. They can also decide on the layout of a room in advance of labour starting.

Thus, a process of categorisation through spatial categorisation is a significant part of women's experiences of hospital-based birth spaces. *HBN09-02* (Department of Health,

2013a) design guidance organises space to reduce risk and perceived differences in the practices of midwives and obstetricians. In practice, this unintentionally leads to the categorisation of women⁸⁶, something discouraged in *Better Births* on the ground that it is not a woman-centred practice (National Maternity Review, 2016). The *NCT Tool* (Newburn & Singh, 2003b) aims to presents to designers, with what makes birth rooms function better for women as labour spaces. In practice, designers use this type of research evidence to create visual distinctions between low-risk and high-risk rooms. Thus, a visual judgement of a room has become important: for women, to understand the category of a room, but also for midwives to present rooms to women and the marketing and evaluation of birth venues.

The findings show that visiting birth rooms on an antenatal tour as a “look around” with a midwife as a guide increases the importance of attractive rooms during pregnancy. Most women describe their pre-labour experience of birth rooms in aesthetic language, commenting on how nice the rooms looked, how the ABC felt like a ‘spa hotel,’ or whether rooms felt medical. It is possible that reliance on the aesthetics of the rooms in decision making represents ‘cognitive simplification’ (Jenkins, 2014b, p. 115) of a complex choice that women feel they are expected to make early in pregnancy.

Venue choices are usually discussed with a midwife early in pregnancy and hospital tours are usually timed to take place towards the end of pregnancy. The thesis shows that women appear to primarily use tours to become familiar with somewhere already decided upon, rather than as part of a selection process. Visiting a birth venue on a tour has ‘a meaningful and significant influence in women's experiences of birthplace decision making’ (Woods et al., 2016, p.17). These visits also contribute to a woman’s understanding of the same spaces when she returns in labour (Nolan, 2008). Women’s emotional responses to being in a potential birth setting during pregnancy suggest that being in these spaces and imagining birth taking place significantly shapes their expectations for birth. On antenatal tours, midwives’ explanation of rooms relies on presenting the aesthetic qualities of a particular room and its location within a ward. During labour, women interpret their allocated rooms in similar ways and apply risk categories in order to understand how their labour was expected to progress.

Maternity policy encourages the notion that women make an informed choice in selecting a birth venue. Thackuk (2007) notes that practices for facilitating informed choice

⁸⁶ Categorisation of women is done often in order to assign available rooms efficiently.

assume a notion of individualism in order to support autonomy. The thesis demonstrates that women employ a form of 'relational decision-making' within the context of their social relationships (Woods et al., 2016; Noseworthy et al., 2012) and the 'broader narrative' (Thackuk, 2007, p.53) of their lives. These are situated practices that Thackuk identifies as facilitating 'self-directed choice' (Ibid.). Decisions made within intimate, interdependent relationships can be just as autonomous (Stoljar, 2014) as expecting women to make birth venue decisions as an autonomous informed choice. It is implied here that benefits exist for women who have the opportunity to discuss and explore birth venues with a range of people before making a firm decision⁸⁷. To do this takes time, as the women who accessed home birth support groups described in their experiences.

The timing of birth venue visits is important to women. The findings suggest there is value in women being able to take hospital tours earlier in pregnancy (something McCourt, Rayment, Rance and Sandall (2014) noted) since a tour is often a woman's primary source of information on a particular venue (Ibid.). Coupled with Langley's (2007) finding that women tend to decide on a home birth late in pregnancy, it makes sense in antenatal care to change when women visit birth venues to earlier in pregnancy and delay the discussion of a decisive venue choice until late in pregnancy. Facilitated discussion in group settings could also benefit women in making informed choices. There is a research focus on how health professionals present the choice of birth venue to women in terms of verbal and written information provided (Coxon et al., 2017). The information-giving value of antenatal tours and their impact on women's later birth experience is less clearly understood.

The thesis findings identify the need for designers to understand, for design purposes, how women's experiences of rooms during labour differ from their assessments of such spaces at other times. In describing labour experiences, women replace aesthetic language with a focus on people and how the furniture divides the space or locates people in certain positions in the room. Women are reassured by the availability of medical expertise before labour but then feel concerned by the set-up of the medical birth rooms when they arrive during labour. Even when further equipment and furnishings are added to create a low-risk environment, women can sense that the overall design of a room is based on medical concerns. This echoes the conclusions of the content validity study (Sheehy et al., 2010) conducted for the *BUDSET Tool* (see Chapter 2 and 3) imply that women's expectations for a birth room may change once they have experienced birth for the first time. Many of the

⁸⁷ This is similar to Brady & Lalor's (2017) conclusion of women's desire to learn from the embodied experience of other mothers.

first-time mothers in my study describe a change in what they would want in a birth room after they had given birth. The impact of pre-labour exposure to rooms needs further research to assess its role in women's labour-based perceptions of spaces.

Exposure to maternity spaces during antenatal tour often leads to conforming behaviour when women return to give birth. Many behave according to their interpretation of what is appropriate for the low-risk or high-risk category of space they occupy. Women who wait in assessment areas often feel physically uncomfortable but do not feel able to make the space more comfortable. The women who did not make a pre-labour visit to the venue where they gave birth also made the greatest adaptations to rooms to suit themselves. This perhaps demonstrates that women exposed to birth rooms pre-labour learn that this is how the rooms should look. Pregnancy is often described as a "teachable moment" in relation education for life-long health goals and promoting normal birth (Lawson & Flocke, 2009; Nolan, 2010; Phelan, 2010). Nolan, with a background of antenatal teaching within the NCT, identifies antenatal education as 'education for challenge and not for conformity' (Nolan, 2010, p. 198). Antenatal tours appear to do the opposite for women and encourage conformity, in similar ways to other pregnancy health education⁸⁸.

Room aesthetics also have importance in the marketing practices of maternity units in order to attract women to give birth in their unit (Rutherford & Gallo-Cruz, 2008). An example of this is how US maternity institutions create a birth room aesthetic on their websites, based on an image of an idealised natural birth that women are expected to find attractive (Ibid.). The same "natural birth" aesthetic is used in the furnishings of birth rooms and in advertisement descriptions to encourage women to believe that rooms with these visual characteristics will lead to an experience of an empowered birth. Bowden et al. (2016) make a similar observation in their review of birth room images available online that:

The visual mode therefore can be seen to perform not only an epistemological role per se, but an embodied role, as viewers begin to shape their thoughts, values and behaviour, in relation to what they view (2016, p. 76).

The vast majority of rooms accessed during an antenatal hospital visit, contain spaces that have a technological appearance which supports an association between a medicalised approach to birth and the hospital context. Similarly to Bowden et al., the thesis findings suggest that 'attention needs to be given to the way the birth environment is visually

⁸⁸ For example, encouraging parents to immunise children (Petousis-Harris, Boyd, & Turner, 2004), improve parenting skills (Svensson, Barclay, & Cooke, 2009) or long-term maternal health (Renkert & Nutbeam, 2001).

represented' (2016, p.76).

Antenatal tours and service user assessment of maternity units, are a form of "pre-occupancy evaluation" akin to the post-occupancy evaluation used in commercial settings such as department stores. UK birth-environment audits of maternity units (often using the *NCT Tool* (Newburn & Singh, 2003b)) replicate the "looking around" spatial experience of an antenatal tour. It follows that design input into birth rooms will continue to be about aesthetics unless there is a new model for evaluating the suitability of a space for birth.

11.3.2 Spatial control

Spatial choice and spatial control are linked in women's experiences. Lack of spatial choice in hospital buildings also gives women little spatial control. Room design principles prioritise emergency use over the day-to-day use of space (as evident in *HBN09-02*). In curtained bays of wards, women interpret the layout as prioritising equipment over their free movement. The layout of the room and adopting a supine position on a bed are understood by women to be fixed by healthcare professionals; especially when combined with care that involved medical intervention, such as the induction of labour. Mobile women have the most control over their spatial experience by shifting position, meaning they can exert control over the space without changing the layout. These spatial strategies include: facing away from the centre; looking at a view through the window; by using hypnobirthing techniques to blank out the space; or finding a barrier (the bed or the door) that can surround an area of room they can control.

Women vary in how much control they expect to have over a space, or their care. Rotter's (1954) concept of internal and external loci of control can be used to explain this variance. Women who feel that they need the help of experts to give birth - an external locus of control - tend to not identify the birth venue as very significant in their experience. Women who feel that their birth experience will result from their own actions - an internal locus of control - also strongly identify a role for the birth venue in their experiences. This translates into having detailed requirements for how the birth room should be set up. Within their actual experiences, some of these women gave birth in hospital which was not always their preferred choice of venue. They thought that staff viewed them as disruptive and difficult women for changing the layout of rooms or for using the space in a non-conventional way. These women also tend to believe that birth in hospital is often 'over-medicalised' and see adapting their rooms as a way of countering the inevitable medical influence over their birth in this location. Other women choose the birth venue that they think they can control the most, for example at home, and then also exercise control over

the space, for example with a boat that can be moved or by restricting midwives access to the birth space.

The threshold to a building is as important to control as it is to choice. Some women did not enter the hospital building to avoid making a decision about induction of labour; some home-birthing women controlled doors so that midwives only entered the birth space when the woman thought birth was imminent. The findings show that a woman's locus of control for childbirth is context-bound and changes with circumstances (Zadoroznyj, 1999). The birth venue plays a significant role in this. In a room interpreted as medicalised (for example, a high-risk room or operating theatre) many women change from an internal locus of control, believing in their ability to give birth, to an external locus of control, that the outcome of the birth will be controlled by midwives or doctors. This leads to some women to seemingly 'depersonalise' (Taylor, 1979, p. 156) their experience by being a "good patient" and complying with instructions for their use of space and furniture. This compares with Mondy et al.'s (2016) finding that women are 'passive' users of hospital birth spaces in comparison to women who labour in domestic spaces. Some women describe relief when a long labour ends in an operating theatre. This is the space they have least control over in terms of their position and movement. However, no women expected to have control within this space, which they understood to belong to the clinical staff.

Some women explain that their need to control space results from a lack of trust that midwives or other staff will support their birth preferences. At home, women perceive that excluding midwives from the birth room makes it difficult for the midwife to take action to override a woman's wishes. For the women in hospital who act in this way, a point came when power transfers to the staff and a woman perceives her control over the birth space passes over to the staff attending the birth. There is a dramatic change in the birth space for women who transfer from a home birth to hospital. They feel the strategies they use for managing labour at home no longer apply with the shift to a high-risk hospital room.

Prolonged difficult interactions, played out between staff and women in hospital-contexts, are often experienced by women as detrimental to their experience of control. Fahy & Hastie describe this as 'disintegrative power' (2008, p.22) based on their interpretations of Foucault's theories on power for the birth environment. This changes the nature of the birth space for the woman. Space is used defensively and 'used by the woman, the midwife and / or any other person in the territory' to create an 'ego-based determination to have a particular experience or outcome' (2008, p. 22). The thesis shows there is a lack of reciprocity in the use of space between a woman and her professional

carers in such a situation. In contrast, reciprocity is a major component in spatial practices for women who use a birthing pool. Women describe how they and the midwife respond to their relative positions and to each other's shifts in positions. Thus, reciprocal use of space needs further consideration especially in relation to developing midwifery practices that support the concept of continuity of carer through reciprocal relationships as identified by McCourt and Stevens (2006).

11.3.3 Spatial continuity of carer

Women value a supportive relationship to connect with during labour, but do not necessarily want direct companionship in the space. Women want to be physically alone more than implied in extant literature. Most literature implies that the absence of a midwife during labour is part of a medicalised birth experience and should be avoided within woman-centred care (Aune, Amundsen, & Aas, 2014). The presence of a midwife during labour is known to reduce epidural use and caesarean rates; and increase a woman's satisfaction with her birth experience (Homer, Brodie, & Leap, 2008; Sandall, Soltani, Gates, Shennan, & Devane, 2016). Many continuity of carer studies conclude that the continual presence of a midwife is a way of ensuring communication and information-giving support women in autonomous decision-making over her care (Mccourt et al., 2006). No women identified that they wanted to labour and give birth alone⁸⁹, but labouring women like spaces that feel flexible and have spatial dividers they can use to manage the ebb and flow of physical proximity to others. Hospital curtained bays and shared bathrooms make women feel most vulnerable and most exposed to the experience of others; and the least protected from unwanted disturbance.

Women desire control over when they are alone or physically close to others, through their use of space and the configuration of rooms. Women need spaces that provide "close separation," perhaps behind a wall or on the other side of an open doorway. Birthing pools are particularly effective in giving this type of spatial separation from birth supporters. Space in a pool is used by a woman in a "moving apart and coming together" pattern. Most women identify "their side" within the pool and a separate "midwife space" around the perimeter of the pool. Moments of contact are signalled by both parties moving to a different space on the edge of the women's side. Women express satisfaction with their interaction with midwives in these spaces.

Women feel concern when they can overhear the conversations and sounds of other

⁸⁹ The woman who free-birthed had a doula and birth partner with her for the birth.

labouring women. Noise and the potential for disturbance is continual in a 'multi-occupancy environment' (Burden, 2007, p. 75) such that a woman needs to be vigilant in maintaining her privacy and distracting herself from the sounds of other women in labour, especially when occupying curtained bays (Wray, 2011). In ethnographic observations, Wray (2011) found that midwives and staff tend to stop hearing the everyday sounds in a hospital ward, perhaps rendering them less responsive to how these sounds distress labouring women. Spatial design features that reduce the transmission of sound that specifically inhibits women during labour have been under-researched. Sound transmission has been investigated for neo-natal units and general hospital wards (Evans & Philbin, 2000; Nzama, Nolte, & Dörfling, 1995). 'More fragmented' (Pope & Miller-Klein, 2016, p. 1) floor plates are recommended to reduce reverberation time and increase the number of surfaces that absorb sound through complex room layouts.

A woman's home offers multiple spatial options that can be used to avoid unwanted companionship. Many women go upstairs to distance themselves from the point of entry (the front door), and from guests who remain downstairs. For women who plan home births, the outside walls represent a physical boundary and a metaphorical separation from medical ideas about birth because they limit engagement with midwives and other health professionals. Women use a room furthest away from the front door, as well as the doors in between, to provide layers of spatial protection for the room where they plan to give birth. In a hospital context, the birth rooms that resemble "suites" (Chapter 9) have a similar spatial capacity that affords women to distance themselves from other people, but to a lesser degree than in a home. Similarly, Foureur and Davis Harte conclude that room layouts are needed where companions and women can have 'access to privacy, while still being together' (2017, p.119).

Women value a home layout not simply for variance in room type - bathroom, bedroom, landing, stairs, and living room - but also for having several rooms available at once. Thus, it is possible for a woman, her birth partner and her doula to be in one room, and for the midwives to use an adjacent room. Everyone occupies closely-connected spaces from which they can easily come together when a woman wants. Within a home, rooms can flow into one another, with open internal doors and without the segregation of public-staff-private space present in a hospital building. Burden notes that the need for midwives to monitor entry through closed doors in hospital, adds an additional task that often occupies midwives' time and distracts them from caring for women (2007).

Women in the thesis study desired separate "zones" in single birth rooms for them and

their midwives, in order to moderate the impact of the continual presence of others. Policy goals such as accurate record-keeping play into this use of space, with most women identifying that midwives are preoccupied with computer screens at certain points during their labour. Record-keeping in the room is often a strategy to maintain a midwife's presence in the room as part of continuity of care. This created a spatial relationship that women found strange: a woman on a bed and a midwife using a computer screen.

Worldwide, many empirical studies on continuity of care and carer assume a hospital is the spatial context for birth, even if antenatal care is in the community (Homer et al., 2001; McLachlan et al., 2012). UK studies also recognise that birth takes place in other building contexts when examining case loading midwifery practices (Sandall, Davis and Warwick, 2001; Collins and Kingdon, 2014). Studies tend to focus on women's experiences of care rather than spatial practices and, when conducted in a hospital context, do not consider that a hospital birth room is only one space for both the birth attendant and the woman to occupy. Studies that recruit participants booked at a single hospital (for example, McLachlan et al., 2012) may not offer enough spatial variety to adequately reflect the significant role of spatial configuration on women's relationships with carers. The thesis interprets that studies based in a single birth room with a medical set-up may potentially overemphasise a woman's need for continuous midwifery companionship to counter any anxious responses to medical equipment, such as a baby resuscitation unit on the wall.

11.3.4 Personalisation of space for birth

Women's use of space across a whole hospital setting is not a personalised experience. They describe experiences regulated by staff management of categories of rooms, and therefore, of women. Specifically, women's trajectories through space were controlled by these categories and the division into room types⁹⁰.

Women interpret that layouts are fixed for certain hospital spaces: a curtained bay on a ward; an operating theatre or a 'medical' birth room with a hospital bed next to a bed head panel. The women who want to, feel unable to change or adapt these spaces; characteristics of the spaces resemble those identified as *tight spaces* by Sommer's (1974). In contrast, women's use of space at home resembles Franck and Steven's (2013) alternative of *loose spaces*; ones those users interpret as flexible and easily adaptable. Franck proposes that loose spaces are quite often temporary and that:

⁹⁰ For example: maternity assessment wards, birth rooms, and operating theatres.

It is people's actions that make a space loose, with or without official sanction and with or without physical features that support those actions. (Franck & Stevens, 2013, p. 2)

Social context is an important factor in whether women feel able to use a room in the ways they wish. Women rarely use hospital shared bathrooms and kitchens and report that these are not appropriate spaces for labouring, even though they are often used at home. Similarly, many women do not feel comfortable using the bedroom at home, but most hospital birth rooms resemble a bedroom.

For home births, women often personalise a room with birth “equipment”, for example a pool and soft furnishings. There seems to be significance in preparing a unique place just for giving birth, which is independent of the importance of giving birth at home. This echoes Mondy et al's (2016) study which found that women's birth space preparations facilitate ‘the expression of personal agency and thus the integration of the mind, body, spirit paradigm maintain health and wellbeing. Perceptions of ‘place’ thus become important (Mondy et al., 2016, p. 44). Highly-regulated, expertly-designed hospital birth rooms contain equipment specific to childbirth -both medical and active birth equipment depending on the category - and often feel too specialised to women for them to personalise to their needs. Some women make small adaptations to the layout of rooms but most assume that furniture cannot be moved and certainly not removed from the space. In her birth experiences, one woman identified a sense of uniqueness about her hospital birth room by creating her own ‘unique’ furniture layout in response to her support needs during labour.

The policy agenda to personalise maternity care requires architects to reconsider standardisation of design for healthcare spaces. Traditionally the interior of a building has been the site of personalisation where people express themselves through their choice of decoration (Pile, 2005). Modernist architects like to control every aspect of the interior: a client of Adolf Loos, an architect known for his modernist villa homes, noted that: ‘wherever he looked in his new home, he found the art of the architect the architect had thought of everything’ (Hollis, 2016, p. 1). This level of design control continues in the role of healthcare architects, in addition to the hand of the regulator and the clinician, in the detail of birth rooms⁹¹. The midwife-led rooms in the study birth venues, contain additions by midwives of domestic furnishings and decoration to counter the effects of their clinical

⁹¹ The details of a birth room usually reflect attempts to eliminate many different types of risk: obstetric, infection and through controlling the use of gases.

nature. This can be interpreted as adding yet another layer of design control, leaving little detail in the space for a woman to control. Coupled with a woman's uncertainty over how long she may spend in a space; it is understandable that most women do not feel able to adapt birth spaces.

Women describe in detail the "discovered" affordances in household items for labour support, as part of a personalised experience of home birth. It feels to them that they have discovered a new way to labour in that space. Often fixed furniture provides strong support - such as kitchen worktops to lean over or hanging from structural supports - almost as if the home context transforms these into loose objects in the space. This is comparable to studies where women report satisfaction with using found 'items found around the house' (Morison, Hauck, Percival, & McMurray, 1998, p. 237) as supportive in labour. In contrast, the women who intend to give birth in hospital, do not readily discover useful labour aids in their homes. They describe prescribed functions for furniture, such as the bed for giving birth, and do not appear to seek or discover alternative ways for furniture to support them during labour.

11.4 CHAPTER SUMMARY

Examining women's spatial experiences during labour and birth has resulted in new spatial insights that relate to core concepts of maternity policy (choice, continuity of carer, control and personalised care). These spatial insights can form updates to the existing design guidance for maternity facilities. The spatial context of women's experiences can help or hinder woman-centredness as a philosophy of care. When women's experiences is investigated using the methodology and methods developed in this thesis, the spatial implications of known phenomena are revealed, for example a woman's need to control her proximity to a supporter whilst also having continuity of carer (Section 11.3.3). A woman-centred understanding of the physical surroundings can develop from conceptualising birth rooms in terms of social space instead of as clinical tools facilitating birth. Paradoxically, some researchers have argued that placing 'childbirth within a social and family context' (Macdonald & RCM, 2008) will also increase normal birth rates. Therefore this shift in concept could actually achieve both aims.

Investigation into the spatial implications of woman-centred maternity policy goals and discussion of the nature of personally-responsive birth spaces is not evident in architectural research. Birth-environment research has focused on spaces to facilitate physiological birth and provided evidence that many women would like to labour in "non-medical" spaces. The

situated policy and practice context for maternity care has led to underlying techno-rational design principles for birth spaces as medicalised environments.

The concluding chapter which follows demonstrates that investigating women's experiences through qualitative interviews and qualitative visual methods has provided rich, thick descriptive data with a spatial emphasis and well-suited to answering the thesis research aim and objectives. Practical recommendations and theory are developed that consider the implications of conceptualising birth space based on women's embodied experience as interior and socially-structured space.

CHAPTER 12

CONCLUSION

12.1 CHAPTER OUTLINE

This chapter summarises the research findings in response to the research aim and objectives and considers possible further research (Section 12.2). The thesis outputs are presented as a series of practical recommendations (Section 12.2.2). Reflective writings follow that consider my researcher position in terms of *bios* and *logos* and any limitations within the thesis (Section 12.3). The thesis conclusions (Section 12.4) discuss a new architectural understanding of birth spaces, grounded in women's experiences, and reflect on relevant social theory and critical spatial practices. This leads to a summary of the contribution to knowledge (Section 12.5).

12.2 RETURNING TO THE RESEARCH AIM

12.2.1 Research aim and objectives

The motivation for the thesis arose from reflections upon my experience as a maternity service user representative, a mother, a practising architect and an antenatal teacher, resulting in the following research aim:

To understand how women experience the places where they labour and give birth in order to inform the design of birth spaces.

Here, the research objectives are reviewed in light of the findings, considering what has been learnt, where there are any lacunae and, hence, where more work might need to be done.

1. To explore how women experience spaces during labour and giving birth.

Women's spatial experience during labour and giving birth is more diverse than previous research suggests. It is primarily a social experience but also can be visual, haptical, emotional and/or physical. Hospital spaces tend to be experienced as a view from a bed and operating theatres remembered in terms of the set positions of people. Women who chose their location in the room, often favour facing "out" of the room, towards walls or through a window to other spaces beyond. Women "discover" physical support and

affordances in found objects, primarily when birth is planned at home. Birthing pools are a distinct space giving women the greatest opportunity for movement and choose an outward facing position. Women have clear recall of room layouts and the relative locations of people and furniture. Highly-mobile women recall less detail for the exact positions of people and furniture, but people remain an important part of their experience. At home, women can recall the precise birth 'spot'. All the women were able-bodied and other spatial aspects may be highlighted if the experience of non-ambulant women is also studied.

Women experience the design intent of the designer: for example, in a hospital building, categorisation of birth rooms is interpreted by women when occupying such rooms. Items of furniture are interpreted as defining roles and locations for people within a given space. Hospital birth rooms are laid-out assuming that a labouring woman is accompanied. How an unaccompanied woman might respond to the assumed presence of a companion through the selection of furniture in a space should be explored further.

None of the women indicated their use of pethidine or diamorphine drugs during labour and the spatial experience of opiate pain-management drugs is not recorded in the thesis findings. Further investigation of the uncommon "non-experience" of birth under General anaesthetic may well highlight additional significant aspects of women's spatial experience, through absence. The later limitations section highlights that different cultural interpretations of space need further investigation.

2. To identify any personal significance women perceive or associate with these spaces and the events that take place in them.

A woman's spatial control influences what becomes personally significant. Physical proximity to companions is significant and women vividly remember overheard conversations and labour noises in shared spaces; they often judge their own labour progress by observing and interpreting other women's labours. Without control over location or position, women place significance on what they can see in their line of sight.

An important part of many women's birth stories are being in the "right space" at the "right time", and not spending a prolonged time in one space. This notion of "right" influences their labour experience when waiting at home or in different parts of a hospital. Successful arrival and negotiated entry into hospital maternity spaces is a significant spatial marker that many women interpret as the point when they are "really" in labour. Women view midwives as the gatekeepers who control their access to all available hospital rooms according to risk categories for rooms. They often interpret their personal ability to give

birth according to their assigned birth room.

Women's stories about their new family unit and about themselves as childbearing women are connected to the rooms where labour and birth take place. Many women choose a birth venue to reduce contingency and have certainty over where birth will take place. For some this means choosing hospital to reduce worry about transfer from home; others choose home to reduce worry about going into hospital. Different women have different interpretations for which venue is the safest or most appropriate place for birth.

The research methods elicited some key aspects of personal significance ("birthing spots" and categorisation of rooms). Greater understanding of personal meaning for women is needed to move towards a concept of personalised birth space. A significant shift in healthcare design principles from the current standardisation of spaces is required.

3. To appraise current design recommendations for the spaces where women labour and give birth, in the light of the findings from this research.

The recommendations in Section 12.2.2 are the practical outputs in response to this objective. Interpretation of labouring women's experiences provides nuanced space-based evidence of the impact of woman-centred care goals on women's lived experiences. Policy aims and design intent are not co-ordinated across *Better Births*, *HBN09-02* and the *NCT Tool*. Contradictory messages emerge about woman-centred care, personalised care, medical risk factors and the nature of physiological birth.

Women's awareness of room categorisation, and the underlying medical nature of hospital spaces, needs consideration at the conceptual stages of a design project. Existing techno-rational concepts used at the design stage mitigate the impact of later adaptations to domestic aesthetic; the domestic concept also needs further consideration as to its appropriateness. Women's interest in the visual attractiveness of rooms is mostly pre-labour. During labour, they focus on social interactions within a space, therefore social aspect of women's experiences should be a primary part of design guidance over aesthetics.

Women describe labour taking place in many different rooms and across venues. Policy guidance focuses on the aesthetic and environmental qualities of a single birth room. For women the birth room is a destination at the end of their labour journey. Women want to self-manage arriving in this final space at the point in labour that they feel is "right", and they also know the room in advance of occupying it for birth. Design guidance does not acknowledge that physiological labour takes place in rooms outside of designated birth rooms.

12.2.2 Practical recommendations for birth-space design

Twelve specific recommendations arise from the research as practical outputs applicable to birth spaces. The first twelve can be enacted in existing settings or through refurbishments and new-build projects; the twelfth concerns the production of design guidance.

A) Practices relating to existing birth spaces and future design projects:

- 1. Configure floor plans to have complexity and division of space, in order to present women with the spatial opportunities to self-control their alone time and companionship.**

In new-build or substantial refurbishment work, each “birth room” should be conceived as a series of spaces with increasing levels of privacy for the single-occupancy of a labouring woman and her companions. Existing rectangular single-space birth rooms can be adapted with screens or partition walls. In existing small birth rooms with a shared bathroom, this recommendation can be applied (to a substantially lesser degree) by locating the bed to one side so it does not divide the floor area into areas too small for a woman to occupy. Removal of fixed midwife stations and the use of handheld screens and equipment will allow a midwife to change location according to where the woman positions herself.

- 2. Apply Principle 1 to whole maternity facilities to create more opportunity for women to feel spatial “distancing” from the rest of the hospital.**

This is a core consideration for refurbishment and new-build work. Women prefer birth rooms in secluded areas (such as “tucked away” at the end of a corridor).

- 3. Avoid overt categorisation of all rooms accessed by women, not just birth rooms, during the design stage and in day-to-day practice. Avoid showing favouritism for certain rooms when they are presented to women.**

Aim for all rooms to be presented as equally appropriate for straightforward birth by demonstrating potential flexibility in room layouts to women and partners.

- 4. Demonstrate to women and birth partners the affordances and opportunities for support during labour provided by the spaces, furniture and the specialist birth equipment provided. Include in these demonstrations (during antenatal tours of maternity facilities), the spaces used earlier during labour such as triage areas.**

Enact a physical demonstration of moving furniture and possible postures that can be achieved using Active Birth equipment that can appear unfamiliar. This provides women and birth partners with the opportunity to have a visual and spatial memory of alternative room layouts for when they return in labour. To demonstrate implies that

the demonstrator has gone through the process of understanding how something is done and therefore, this knowledge may also help professional birth attendants to support women in a more spatial manner.

5. Adopt the point of view of a labouring woman on a spatial journey through labour to audit all spaces a woman accesses in maternity facilities as labour and birth spaces.

Make spatial assessments of rooms, and ask women to review spaces in this way, from the locations that women are likely to adopt in the space, and the positions that an item of furniture may impose on women.

6. Seek variety in the provision of furniture and furnishings as both fixed items for firm labour support (an example is an equivalent to kitchen work surfaces). Provide furnishings in locations that appear flexible: to present women with opportunities to re-arrange the layout of rooms and personalise the space (for example position a bed to one side of the room as if “stored” for later use). Set out the furniture and furnishings in a room with consideration to lines of sight and a woman “facing-outwards” when using furniture.

Provide furnishings which facilitate many different positions, such as birthing pools, so that women can choose and also change the direction in which they face. Assess the provision of furniture in terms of whether it implies designated locations and roles (patient and supporter) for a hospital context. Arrange furniture in a way that facilitates interaction between a woman and her supporters.

7. Adopt a questioning stance: and review common clinical practices for the use of items of furniture and look for opportunities to change these uses to increase women’s opportunities to be mobile.

Use mobile equipment such as wireless telemetry monitoring and hand-held screens for midwives to input observations. Teach use of many types of furniture and none in midwife training, such as learning vaginal examination techniques for a woman standing or in a birthing pool, so that midwives are confident to complete these with women. Train midwives to facilitate antenatal discussion of preferred positions with women as a prompt away from the default of the hospital bed during labour.

8. Assess items of furniture in rooms as representations of care practices and whether this representation is appropriate for woman-centred care practices.

A core example from the findings is the practice of storing a hospital cot in a birth room during a woman’s labour and the care practice of skin-to-skin contact between a mother and baby after the birth.

9. Arrange work areas in operating theatres so that a woman can always see her baby in her line of sight.

Evaluate and re-configure maternity operating theatres in terms of a woman's line of sight from an operating bed (within the constraints set by the surgical requirements of the space). Consider a woman's ability to always see her baby and the proximity of her birth partner for physical support as she wishes.

10. Challenge the concept of an optimum birth environment and add social-spatial use of rooms, especially in antenatal education as well as in design considerations.

Review aims and learning outcomes of antenatal education to assess whether they present an optimum birth environment as a concept. Instead, discuss birth spaces in terms of their suitability for individual women and social use of space in labour in addition to the physiology of birth (currently explained through hormones and positions for labour).

11. Engage all the disciplines and stakeholders connected with the design of birth spaces in a review of differences in the use of terminology, for example differences in definitions of the term "environment". Actively pursue opportunities to co-ordinate the understanding of woman-centred care and spatial design.

Disciplines include not only midwifery and architecture, but also obstetric medicine, various types of engineering and commissioners of maternity facilities, amongst others.

B) Production of design guidance:

12. New design guidance documents are needed that could be derived from this research and an understanding of the core concerns of woman-centred care. Changes to improve existing guidance documents could include:

- A general review and evaluation of all design guidance provided for a co-ordinated and consistent message on woman-centred care as personalised care.
- Re-evaluate the recommendations that divide buildings spatially into midwife-led and consultant-led areas, leading to the categorisation of rooms as high or low risk.
- Create space studies in collaboration with mothers and using the findings from this research.
- Devise visual descriptions of guidance that focus on people, and their physical and social actions in birth spaces.

12.2.3 Implications for further research

Future birth space research will benefit from the application of critical spatial practices and from creating situated social theory for the experience of birth. This will take birth space

research outside of existing modernist concepts of progress and improvement, and the rational practices of obstetrics and healthcare architecture that result in standardised, ordered and clinically-controlled environment. Pre-existing generic concepts, for example, homely, privacy and dignity that appear in birth-environment research need to be re-examined for a birth context.

The experience of childbirth as a social act changes as society evolves, thus birth space research needs to be situated in current practice and policy contexts, and regularly re-assessed. The Twenty-First-Century experience of childbirth does not fit the binary schemas of the past modernist ideal of rational progress or alternative historical ideal 'primitive' (Shweder, 1984, p. 28) versions of birth. Shweder's term 'nonrational' (Ibid.) is useful in positioning future investigation of birth spaces as woman-led and outside of current models. Walsh and Evans argue that midwifery research should use a theoretical perspective with 'inclusive and holistic intent', that looks 'more broadly for generative mechanisms' (2014, p.e3) across all disciplines concerned with birth space (Ibid.). Future research will benefit from the type of interdisciplinary working contained in Wilson's concept of 'consillience' (1998) for research areas where disciplinary knowledge can usefully overlap.

There is value in considering the many modes of birth space (visual, embodied, social) through architectural theory not already applied to birth space (for example the haptic architecture of Pallasmaa (2013) in relation to how labouring women discover affordances). Birth space is a form of interior architecture. Theory such as Franck and Lepori's (2000) model of architecture designed from the inside out can be a starting point for research and design. Changing modes of experience, for example between the visual when women are not in labour and the social during labour, also need to be examined further.

Future research will benefit from conceptualising childbirth in spatial terms and through spatial experience. Maternity research and the spatial organisation of maternity facilities are structured around time-related concepts for birth (McCourt, 2009). In the thesis, spatiality as important for birth became evident when women recorded their experiences of birth through drawing. They moved beyond remembering their birth experience as a linear timeline. This reveals relational and social reasons for a woman's position and movement within, and between rooms, not captured in previous research. The experience of all birth attendants is needed to have a fuller person-centred understanding of birth space and could elicit multiple perspectives of the same space. This is likely to be important for more complex medicalised intervention, for which aspects of the woman's recollections

may be hampered by the intervention.

The thesis findings can provide the basis for a large-scale national survey; updating the NCT national surveys of women's views on the birth environment (Newburn & Singh, 2003b, 2005). Developing the qualitative thesis findings into such a survey would form a process of quantitative content validation of the findings. Research by design (an architectural approach for investigating design interventions) is another way to develop design principles. One study host NHS Trust is planning new maternity facilities and could provide the opportunity to apply some of the simple and cost-effective practice recommendations from Section 12.2.2 above.

The thesis challenges the production of design toolkits as implying that birth space design can be formulaic and techno-rational; and thus challenges a way of disseminating this research⁹². There is a much-needed further step beyond the scope of this thesis, to propose an alternative way of sharing design principles grounded in situated social understandings of architectural space. An answer may lie in utilising interactive technology as a means to demonstrate social interactions and engagement with birth spaces, replacing the static layout drawings and spreadsheets of current design guidance.

Two possible post-doctoral studies emerge: firstly, to explore the experience of women giving birth in operating theatres. So much focus is placed on birth rooms intended for physiological birth that caesarean births, and assisted births, in an operating theatre are excluded. Developing design principles for a woman-centred design in these highly-regulated surgical spaces will extend the debate on what birth spaces are. Secondly, to develop situated theory and consensus of terminology through an extended review (across disciplines) for terms regularly used, *birth environment*, *space*, *territory* and *architecture*, which are not clearly defined.

12.3 REFLECTIVE WRITINGS

12.3.1 Introduction

I introduced my positionality and reflexivity in Sections 1.3 and 1.4 and discussed my reflective research practices in Section 4.2.7. Here, summative and formative reflections on *bios* and *logos* conclude the reflective researcher work of the thesis. A final reflective section considers limitations within the thesis.

⁹² The original research proposal suggested that I would create a new version of these toolkits, but the research process and analysis of findings showed this not to be an appropriate practical outcome for the thesis.

12.3.2 *Bios: Myself as the researcher*

I have emerged as a researcher affected by the research participants and more strongly situated in my research field through the experiences of the PhD process as ‘an interactive, dynamic process’ (Oliver, 2013, p.138) of formation.

I originally interpreted my research as woman-led, rather than researcher-led, taking the position of ‘cultural “insider”’ (Ganga & Scott, 2006, p.1) as a mother and a birth practitioner (*Figure 1.3* in Section 1.4). I share some similarities in social class and ethnic background with the women who self-selected to participate; a number of women noted their involvement with research as a practice in their work lives⁹³. I had a “culturally-safe” background for some women: as I left one woman’s house, she noted how her honest reflections reflected my position as a mum and an architect who was not a medical practitioner.

Despite these similarities, the uniqueness of birth means I do not share the same experiences as the participants: my three hospital births were straightforward, but included a pre-term and a stillbirth; my home births were not water births; I have no experience of birth in an operating theatre. In qualitative research, gathering data with one’s ‘eyes open’ (Asselin, 2003, p. 99) is just as valid as sharing the experience of participants. I felt humble as a researcher to have the opportunity to be open to the diverse birth experience that women shared with me. I am confident that this has led to a broader outlook on childbirth for my future research. For example, in the original research design I considered women’s experience of birth in operating theatres as not relevant to the study⁹⁴. A significant number of participating women had unplanned caesarean births and only shared that this was the case during the interview. I became aware of the importance for these women that their experience of surgical spaces is also recognised in the thesis.

I became an “outsider” when applying for NHS research ethics approval. An architectural student conducting research by speaking directly to “patients” seemed an obvious research method to me, but I was greeted as an oddity during interactions with NHS practitioners. My difficult experience of the ethics process suggests that healthcare research exists as a protected culture and that members restrict what can be done by whom, to whom, and in which location. I returned to being an “insider” within the culture of design, and its visual and spatial language, when women noted their anxiety in having to

⁹³ Despite a significant non-British population in the empirical study location, I found that these women did not engage with the research (I discuss how this could have been addressed in Section 11.7).

⁹⁴ A planned caesarean birth was an exclusion criterion for women participants.

describe a room through the process of drawing.

The thesis experience has led me to conclude that spatial design research needs to have some researcher-led direction in order to interpret the design implications of experience. Research and interpretation of data is a complex process and one that also requires some experience and knowledge of the cultures of research. Spatial thinking is understood to be a specialised activity with which the majority of people do not have a need to engage in normal life. Also, spatial experience is not readily shared in birth stories. The research I completed is perhaps, the closest I could get to a woman-led study by reducing what is led by the researcher to an absolute minimum.

I am a woman who has given birth at home (as well as in hospital and a birth centre) and an antenatal teacher for an organisation often misrepresented as promoting natural childbirth in an “unhelpful” way. Many people assumed my research motivation to contain a positive bias towards home birth. Reflecting on the PhD process, I see this criticism as valid in the early months and most likely caused by my own lack of in depth knowledge of a range of women’s personal birth experience. The research interviews changed that; and listening to each woman’s unique experience caused a shift in my understanding of birth spaces. In the latter part of the PhD, I actively scrutinised my work for evidence of positive bias towards home birth. This was a difficult task because, as an architect, I found women’s use of space at home really rather interesting. Many themes arose from the number of spaces available to women at home compared to those available to women in a hospital context. Questions around home and hospital birth still arise out of discussing my work. I am happy to engage with this discussion which I believe stems from a dichotic debate over home and hospital birth contexts that exists in society in general, not just those who practice within maternity services.

12.3.3 Logos: Researcher/practitioner practices

As a practising architect, I hope that the thesis will change practice for the production of birth spaces. The challenge is that architects are not good at accessing peer-reviewed research and often assume academic research relates to testing of environmental factors and materials, or complex theory not related to day-to-day practice (Samuel, 2017). In addition, there is a mainstream system of dissemination of academic research through article writing, thesis writing and book publication ‘which turned the knowledge so produced into a new form of “property” owned by the researchers’ (Nabudere, D., W., 2008, p.77). This system of dissemination can often exclude practitioners from engagement (Samuel, 2017).

I am looking for a practice-based form of research dissemination with women as equals rather than as “participants”⁹⁵. I intend to use the research practically within local maternity communities. Naburdere calls for new forms of research that demand ‘that communities appropriate the process of knowledge production with the aim of their own empowerment’ (2008, p.81). The personal and emotional investment that people have in the birth of a baby is too important for architects to not engage with the design of birth spaces. Most people, both men and women, after inquiring about my thesis subject, then continued the conversation by describing the birth(s) of their own children: they only gave me the opportunity to mention the title. I am intrigued by such an obvious need for people to share their stories with someone who could take action to apply their knowledge of birth spaces.

Implementation science has emerged as a method in healthcare to understand the barriers and opportunities to disseminate research into day-to-day practice (Damschroder et al., 2009). A similar strategy situated in architectural practice would be transformational in order to reclaim and speculate (Doucet, & Frichot, 2018) on the architectural nature of birth space.

Even though I am female, my practice as an architect is unconsciously male and in the traditional “mould” of an architect. The era in which an architect trains is significant in their continued thinking and practice. I trained in the 1990s and Jane Rendell (whose spatial critical theories have informed my thesis) was a regular critic of my design work at interim crits. During the PhD, I have realised the importance of deep reflection on professional influences and the binary thinking of mainstream and alternative; I remember the emergence of MUF⁹⁶ who were viewed in my architectural circles as ‘alternative’. My “other” forms of work realised in pursuing an interest in maternity care, has led me towards seeking other ways to practice, engaged with people who use, own and occupy spaces, and the situated nature of knowledge.

Working in practice can offer benefits for research. I hope the person-centred research methodology developed here informs my design work. People rarely feature in my drawings which are primarily concerned with the technical aspects of construction for Building Regulations drawings. Additionally, my daily engagement with the practicalities of

95 Section 1.2 describes my service user experience of participation which retains knowledge production in the hands of the expert.

96 MUF is a collaboration of artists, architects and urban designers specialising in the design of the urban public realm to facilitate appropriation by users.

constructed space enable me to grasp the spatial aspects of women's experiences at a conceptual level that other non-practising researchers might not identify. Maternity facilities design and the practice of healthcare architecture is influenced by many technical disciplines without acknowledgment of critical spatial practices. Aspects of architectural knowledge are missing and architects lack "voice" in maternity care as to what the 'social value of the culture of architecture' (Samuel et al., 2015, p. 9) can offer. An ideal for facilitating a creative and meaningful engagement of architects with the social value of architecture would be a combination of practice and research, situated in the lives of people who use the designed spaces.

I started the thesis with a desire for the research to feel "humanised". Upon completion, I now realise that notions of what it is to be "human" and to produce spaces to accommodate a humane form of care and support are actually culturally-specific assumptions (Bates, 2018). The implications for the social modelling of birth spaces is that a notion of "human" should be used with caution. Therapeutic landscapes, and humanising or salutogenic design (Foureur & Davis Harte, 2017) have a connection with designing from lived experience but are not necessarily synonymous with it. They can contain an implicit assumption of binary schemas, since they usually represent an opposite, or a challenge, or a response to environments designed on biomedical principles: 'the human as not-institutional ... the human as not-technology ... the human as not-biomedical' (Bates, 2018, p.7). Bates also suggests that recognition of social aspects of design in the 'humanising' of architecture within healthcare is mostly supported as an idea rather than actual implementation in healthcare settings.

The process of conducting research across the two university departments (and the two professions of midwifery and architecture) added complexity for me as the person under the guidance of both disciplines. Although I have a knowledge-base for childbirth through antenatal teaching, I am not trained as a midwifery practitioner or researcher. My knowledge of architecture is primarily from my architectural practice and not from experience of research practices. My two supervisors guided me through the thesis from their midwifery and architectural positions. I became the point at which these threads combined and were interpreted. A number of times the research practices, terminology and preferences of the two professions conflicted. This is reflected in an element of complexity in writing the thesis and additional time taken to engage with difference in disciplinary interpretation. I highlight this to identify a need for greater cross-disciplinary research to open up more fruitful discussion and debate.

12.3.4 Limitations within the thesis

The thesis is mainly limited by the contextual factors of available relevant literature, the protocol surrounding NHS ethics applications and the self-selection of participants. My experience reflects Lawson and Parnell's (2015) assessment that ethical approval for empirical studies in healthcare venues can be difficult to achieve, especially for non-healthcare professionals such as architects. The work required to achieve ethical permissions from the research and development offices of two NHS sites was a time-consuming process. The process was complicated by the reciprocal relationship between the university and local NHS Trust which assumed that all ethics applications would come from the health-sciences departments⁹⁷.

Accessing appropriate literature for the thesis was challenging and there is scope to further develop a notion of which domains of knowledge are relevant to birth spaces. Three factors impacted on the initial literature review to establish the scope of the thesis: a lack of studies on birth spaces, a lack of clarity over the nature of the birth environment, and the birth environment's relationship to architectural and midwifery research more broadly. Building the case for the research solely through scholarly texts does not reflect the "field of knowledge out there." To counter this problem, I created a hybrid review of policy and research literature. This includes literature with a relevant, but indirect, connection to birth spaces, such as literature on patient privacy and dignity, and the notion of "home."

A clear and strong link exists between woman-centred care and birth environments in terms of the policy and practice context in which the research is conducted. In light of later reading of feminist and social architecture practices, my earlier reading of the policy and practice context now appears a "straight" interpretation with scope to reflect further on the political and social implications for architectural practice.

The research aim did not seek a socially- and ethically- diverse group but attention to the background of participants would probably enhance the already elicited findings. Seeking the advice of local researchers and "gatekeepers" already working with local communities, may reach a more diverse group. Engaging with community groups before the start of data collection and therefore understanding better how to capture the interest of mothers with young babies in the locality is another alternative.

The sample was adequate in representing the different birth venues that were available

⁹⁷ For example, my application from the School of Architecture resulted in delays whilst university and NHS staff discussed who would fund the blood tests required by the research and development offices of the two NHS sites.

and reached a point of data saturation for the themes presented in the thesis. In the NHS protocol, I proposed collecting data from eighteen women, six women for each type of venue. I recruited and conducted interviews up until the allowed time-limit in my ethics approval. This generated twenty-four interviews. My original recruitment strategy did not fully appreciate that three consultant-led units represented three different hospital venues. The increased number of participants gave a better spread of experience across the three hospitals. Home birthing women were very easy to recruit and eventually I needed to turn away women in favour of interviewing women who used the other venues. Birthing pool experience came primarily from home births and one water birth in the birth centre. A number of women planned water births in the birth centre but did not. It was not possible to recruit women who experienced water birth at any of the consultant-led units.

I designed the methods to be as easy as possible for the mothers taking part, knowing that they had caring responsibilities for at least one child. Some interviews were hampered by the messiness of postnatal life: the challenge of talking and drawing with a baby that wanted to be held, fed or needed a nappy change. We quickly realised when the washing machine going on to a spin cycle, or a baby playing with the pens, would drown out our conversation on the voice recorder. This inevitably impacted on our ability to concentrate on the task, but at the same time it was important to not let these ordinary aspects of family life prevent women from taking part.

The data produced in the interviews is extremely rich and it took time to allow due consideration to each woman's experience represented in both words and images. The process of analysis was aided by the fact that I had been present when each woman created her drawings. This made understanding the transcripts, and her references to the drawings much clearer. A means to record the order in which spatial aspects are remembered may elicit useful data on the significance a woman places on certain aspects of a room.

12.4 SPATIAL THEORY WITHIN THE THESIS

12.4.1 Introduction

This is the first architectural exploration of birth *spaces*⁹⁸ grounded in women's experiences of labour and birth. The thesis methodology supported women in articulating a space-based understanding of their birth experiences. The resulting situated spatial knowledge significantly challenges and enhances extant practical and theoretical knowledge of birth spaces.

Existing birth-environment research focuses on practical changes that can be made to existing rooms; perhaps not recognising the dual role of theory in shaping the real world (Robson & McCartan, 2016) and acting as a form of architectural practice (Rendall, 2012a). In the thesis, emergent spatial theory complements the practical outputs in its capacity as a form of practice and a philosophical approach for design. As Bourdieu and Wacquant (1992) insist, theory is situated within a certain context and must arrive from empirical knowledge. This chapter section divides emergent spatial theory into a new architectural understanding of birth spaces discussed in relation to existing theory (Section 12.4.2) and new spatial theory grounded in women's experiences (Section 12.4.3).

12.4.2 A new architectural understanding of birth spaces

The thesis presents a qualitative evidence-base for birth space design that "'speaks back" to science' (Nowotny, 2003, p.17) in a field within which techno-rational definitions of birth and healthcare design have limited design evidence to 'what scientists have discovered and are able to exploit' (Ibid.). Rather than aligning with the medical-scientific position available in design guidance, the thesis position more accurately reflects recent theoretical shifts, which re-conceive childbirth as a 'social transition' (McCourt et al., 2016, p. 25), and reposition architecture 'as a social situation' (Katoppo & Sudradjat, 2014, p.118).

Knowledge advancement of social aspects of birth spaces has resided within midwifery-initiated research⁹⁹ with only the work of Bianca Lepori emerging from an architectural position. The application of social theory in midwifery often focuses on power relationships within the birth environment, especially for the institutional birth room: for example, the application of Foucault's (1980) notions of power and knowledge in Fahy's (2008a) work on birth as an expression of disciplinary and organisational power rooted in knowledge and

⁹⁸ This is an investigation of women's experiences of the spatial context of childbirth rather than the birth environment which is a more common notion in midwifery research.

⁹⁹ For example: the work of Foureux, Fahy, Lepori, J. Davis-Harte, Leap, Hodnett and Hauck.

control of the 'birth territory'. The thesis shows that critical spatial practices¹⁰⁰, social theory and feminist architectural theory¹⁰¹ have relevance to a social architecture interpretation of birth spaces. Knowledge advancement of social aspects of birth spaces has resided within midwifery-initiated research¹⁰² with only the work of Bianca Lepori emerging from an architectural position. This is a field that will benefit significantly from further research with critical interpretative methodologies such as this thesis employs. "Other" forms of birth space knowledge can be interpreted and are necessarily complex and narrative-based, acknowledging both that childbirth is 'a social process embedded within a culture and the political and institutional priorities of its time' (Foureur & Davis Harte, 2017, p.119), and that birth spaces extend beyond the idea of 'providing a restful "ambience" in the birth place or even simply adding nature views' (Ibid.).

The social production of architecture, as proposed here, is a means of making design relevant to the changing needs and expectations of society (Schneider, 2017). This is a more speculative, imaginative and active form of architecture (Ibid.) than that which currently informs birth space design. The thesis methodology actively aims to 'jam the [existent] theoretical machinery' (Irigaray, 1985, p. 78) powering birth space design and which currently favours medical knowledge within the domain of evidence-based healthcare architecture. Thus, the thesis values the skills of the social architect (Samuel et al., 2015) over the scientific principles advocated by the originators of evidence-based healthcare architecture, for example Hamilton (2003).

The application of social theory in midwifery often focuses on power relationships within the birth environment in particular for the institutional birth room: for example, the use of surveillance and the gaze (Foucault, 1979) and Fahy's work on birth as an expression of disciplinary and organisational power rooted in knowledge and control of the 'birth territory' (2008a). Birth-environment research, situated within a political domain of midwifery research, does not claim neutrality and challenges dominant power structures within maternity services. In contrast, the thesis review of practice and policy demonstrates that the involvement of healthcare architectural practice within birth space design serves to maintain the ideological status quo with healthcare architecture's close relationship with dominant medical power structures. A new spatial understanding of the specific nature of power distribution within birth spaces will acknowledge that 'architecture is intertwined

¹⁰⁰ For example: Jane Rendell's work which builds on the work of Geuss, de Certeau and Lefebvre.

¹⁰¹ For example: aspects of the work of Taking Place, Petrescu, Rendell, Doucet, Frichot, Till and Schneider.

¹⁰² For example: the work of Foureur, Fahy, Lepori, J. Davis-Harte, Leap, Hodnett and Hauck.

with articulations of power and difference' (Heyen & Wright, 2012, p.41), the 'privileged role' of the architect (ibid.) and analyse 'presumptions about the individual and the public, including the client' (ibid.) in order to critic the social aspects of birth spaces.

Late-Twentieth-Century maternity policy presented women's experiences of childbirth as strongly guided by market rules, while power struggles evident in available social theory and philosophical thought are applied to women's experiences of childbirth in existing research¹⁰³. Most major social theorists are men situated within Western capitalist society and their theories express the decline of the primary social location of reproduction, kinship and familial relations. Social theory focuses on economic, political and community ties, and social practices are primarily framed in terms of 'what men do, and where men are located in that society' (Chodorow, 1998, p. 272). Labouring women are far more likely to act in relation to social ties, perception of roles and membership of kinship groups¹⁰⁴. Stone (2018) notes that there is an implicit assumption, in the work of many social theorists and anthropologists, that a woman's social world is where the act of birth fits.

A different social theory situated in "what women do, and where women are located in that society" is needed for women-centred birth spaces. This is in effect a deliberate "gendering" of birth spaces as female spaces. However this is not the same suggestion, as some scholars describe, of going back to a historical ideal (Sheila Kitzinger) or that men should not be present in a birth room (Odent, 2009). This is birth space conceived as a *woman-centred* space not as a *woman-only* space and designed from theory derived from women's everyday social spheres. These are spheres which rarely coincide with more "alien" hospital spaces, outside of the context of maternity care provision. Kinship is far less likely to organise the social world of women who labour in these extra-familial institutions than those who give birth at home - the NHS hospital settings that have taken over many aspects of reproduction and are the "default" location of birth. The findings of this research show that the physical context within these institutions combines with social practices to "loosen" women's connections to the kin that accompany them and space-based opportunities are not currently provided to compensate for this detachment. Birth in hospital provides different social experiences for women to those experienced at birth at home.

¹⁰³ For example in Fahy's book *Birth Territories and Midwifery Guardianship* (2008) and much of the work completed on "undisturbed birth" (Buckley 2003).

¹⁰⁴ Kinship groups can be familial but also manifest as "support groups" for particular interests, for example, home birth.

Maternity care is often reinvented by birth activists and researchers through encouraging change in maternity policy¹⁰⁵. Design guidance for birth spaces presents architecture's role in birth spaces as technical, rather than aspirational. Guidance reflects the powerful influence of the NHS in the UK as the centralised 'machine of socio-cultural reproduction' (Taylor and Saarinen, 1994, p.3) producing standardised birth spaces. Architecture could support policy change through revising 'its value systems, its means and definitions, its vocabulary of practice' (Petrescu and Trogal, 2017, p.2) and by engaging with maternity practices in order to meaningfully negotiate with what is needed in birth spaces. A shift in our understanding of "evidence-base" to include social science and critical research, such as that presented in this thesis, will better acknowledge the intimate intertwining of the social and spatial in medical settings (Gesler, 1992, p.744). This form of architectural practice reflects that architecture generates social relations and 'pervades our everyday experience far more than a preoccupation with its visual properties would suggest (Hillier & Hanson, 1989, p. 1). The thesis approach promotes architectural design through user experience, rather than the more common preoccupation of architects with architectural form (Buchanan, 2015).

Women's spatial experiences of power structures appear in the thesis at multiple spatial scales: for example, in a room, or a building, or a city served by a particular NHS Trust. Thus, the thesis findings resonate with the work of others such as Kossak et al., (2009) on architects' unavoidable involvement with power structures at multiple scales from the scale of the body to across cities and regions through their design practices. The thesis takes this to present an ethical responsibility for architects and academics to examine the broad context of their work, including the social worlds of this context. Architects can be at the forefront of the critical appraisal of existing design practices and actively challenge 'the interests of those in power' (Ibid., p.3), including members of their own discipline in positions of power. Researchers in spatial disciplines (such as Franck, Lepori, Kane Weisman, Balabanoff, Davis-Harte) are increasingly recognising the need to engage with anthropologists, medical and social scientists (for example Davis-Floyd, Fannin and Jordan) who have pioneered and interest in the spatial context of birth. Chronaki notes this reflects a growing recognition that childbirth is 'an intensely spatial as well as a social phenomenon, always and everywhere determined by social conditions and the qualities of the environment' (2015, p.71).

¹⁰⁵ For example, recent maternity policy engages with 'difference', interdisciplinary working, woman-centred care and personalisation of care which previous policy did not acknowledge.

12.4.3 New spatial theory grounded in women's experiences

The thesis proposes significant spatial theory, grounded within women's experiences, that is distinct from existing birth environment knowledge and policy guidance. This theory is presented as: *prosumed space*, *curated space* and "*not waiting*". The thesis resonates with Schneider observation that 'space is never something that simply comes into being and then goes on to exist, but *it is produced and reproduced through human – or social – interaction ... the interests of those who commission, inhabit or use these spaces and structures also shape them*' (2017, p.24). Genuinely woman-centred birth spaces will emerge from understanding birthing space as existing predominately through human interaction: shaped by patterns of inhabitation over time; and through a woman's interactions with material form, as part of experiencing human relationships within connected spaces. Both time and space influence women's embodied experiences, as Till notes:

Time and not space should be seen as the primary context in which architecture is conceived ... by positioning time as the key context for architecture, space become active, social, and it's released from the hold of static formalism. (Till, 2009, pp. 95–96)

This contrasts sharply with perception of childbirth projected in design guidance through images of empty equipment-filled rooms. Twentieth-Century healthcare architectural design and obstetric medical practices have over-emphasised the role of controlling risk within childbirth for understanding time and space in birth space.

Women aspire to *prosume* and *curate* spaces specifically for childbirth. I re-appropriate prosumption here to focus intent on the value of applying theory in design practice and social processes surrounding birth space. *Prosumption* is 'both production and consumption rather than focusing on either one (production) or the other (consumption)' (Ritzer & Jurgenson, 2010, p.13) and the term originates in practices associated with the creation of digital content on social media and as part of Web 2.0 (Ritzer & Jurgenson, 2010; Humphreys & Grayson, 2008; Fuchs, 2001; Gauntlett, 2013). Twenty First Century architecture shares a similar move (Lees 2001) towards 'a kind of "choreographing" endeavour, combining the design *and* use of built spaces' (Kraftl, 2010, p.409); 'old demarcations between producer, supplier and user have broken down' (Nowotny et al. 2001, p.26).

Bruns (2008) further develops the concept of prosumption with his use of *produsage* to emphasis user-led production. Prosumption of space is a situated practice for childbearing

women carried out in a series of temporal and personally-significant spatial actions¹⁰⁶. Women do not literally construct the physical context and any space has the potential to be a birth space regardless of its designation on an architectural plan. Thus, as architecture is ‘constituted through its occupation ... experiential aspects of the occupation of architecture are important in construction of identity’ (Borden, Penner and Rendell, 2002, p.10). Borden et al. here refer to social identity, but the thesis shows that women have a need to identify their own birth space through occupation and prosumption.

Home birth space can be conceived as not only prosumed but more accurately as *prod-used* space, since the childbearing woman leads its production. It also has the characteristic of *curated* space: a space where a woman selects, organises and looks after objects from her expert knowledge of the space (Schalk, 2007). Home birth women have the time during pregnancy to curate certain objects for birth¹⁰⁷, and reposition items so the space feels “right” for their needs. Managing the location of people, something that emerged as significant in the findings, is also part of this curating process as women place items or prepare certain rooms for certain people within their house. The curation process continues after the birth, as items in the birth space are dismantled by companions to create a different “postnatal” space during the woman’s first moments holding the baby. Finally, a mother’s intergenerational storytelling links the birthing spot with the child and their birth. These practices resonate with the work of architect Meike Schalk who views curative design practice (Schalk, 2007) as ‘caring for those possible connections built up between people, places and things’ (Handler, 2016, p. 180). The thesis identifies, to a lesser degree, that women can curate spaces in the “suite rooms” of a hospital context when women interpret furniture and room functions¹⁰⁸ as “flexible” and “loose” and thus feel comfortable repositioning in response to the events of labour.

The thesis links prosumption and curation with birth space as crafted by women; using a contemporary notion of making and crafting as socially valuable through the rise of Web 2.0 prosumption, and renewed interest in activities such as knitting (Gauntlett, 2013)¹⁰⁹. The emotional attachment expressed for ‘birthing spots’ is possibly explained through the sense of joy identified within the activity of crafting as the process of making one’s mark, shaping the environment, sharing of experience and self-expression (Gauntlett, 2013, p.

¹⁰⁶ An example from an imagined home birth is: placing a birthing pool in a living space, giving birth and then returning the space to a different configuration.

¹⁰⁷ For example, when women set-up a birthing pool.

¹⁰⁸ For example when a woman interprets an en suite as a suitable space for her to labour or give birth.

¹⁰⁹ Gauntlett identifies the significant contemporary social meaning of making and crafting after being ‘consistently derided over two centuries’ (2013, p.218) as the work of ‘amateurs’ (Ibid.).

220). The thesis proposes that presumption of space during childbirth is fundamentally creative and “in the moment” according to the needs of a labouring woman. Birth space is therefore seen as a creative and nuanced spatial process ‘invested with meaning and value and nonverbally proscribing how the space can be used’ (Foureur & Davis Harte, 2017, p.119).

Thus, women’s creation of birth space is a form of ‘amateur production’ (Ibid.) that does not require the hand of the architect or clinical expert to lay out the space for her. The thesis moves away from the existing appropriation of creativity by experts as a form of exclusive practice (Ibid.). The notion in extant literature of an optimum birth space for facilitating a physiological birth arguably comes from a different and modernist focus on outcomes and products. Understanding birth in terms of the craft of producing, using and curating space may in the future help to explain the creative joy felt by women who feel empowered by their experiences of giving birth.

For those designers who view childbearing women as the curators of birth space, opportunities arise to incorporate diversity and to connect narratives to spaces that are ‘so easily left out of planning process and policymaking’ (Handler, 2016, p.180). Planning and policymaking so often favour the ‘official narrative’ (Ibid.) of commissioners and policymakers and result in anonymity for the designer who is required to produce generic spaces. The architect has a significant role to play as a potential catalyst for creating spaces that a woman presumes and curates. The model for the creation of Maggie’s Centres is a useful precedent for the creation of personalised birth space for women, demonstrating how the spatial practices of the designer can be fused with an evidence-base of users’ experiences (Jenkins, 2015).

Within a woman’s internal world during labour, and later in her birth stories, “other” space interacts with the “real space” of a hospital, birth centre or house, as Borden, Penner and Rendell observe:

Space is at once both real and metaphoric: space exists as a material entity, a form of representation and a conceptual and political construct. (2002, p.9)

For a woman, the spatial context for a birth experience is an evolving re-interpretation of the material space that she perceived during labour, which is often distinct from how she would perceive the same space at other times. Some aspects of birth space only exist with reference to unfolding and anticipated events, as recognised by architect Jennifer Bloomer: ‘the space takes on an anticipatory otherness ... Waiting, waiting, waiting for "something that is about to happen"' (Bloomer, 1992, p.8). Memories of the physical space also set the

context for intergenerational storytelling, which in turn is a conduit for processing the meaning of birth for a woman. Rendell (2016a) observes that interest in the interior of buildings emerged from similar roots to psychoanalysis. The thesis proposes that analysing birth space as interior architecture is an opportunity to examine its position as ‘the site of convergence between space and subjectivity, place and psyche’ (Ibid., p.29). Placing high value on the importance of interior architecture is part of this proposal; acknowledging that interior architecture has its own situated theoretical context distinct from other forms of architecture (Taylor and Preston 2006), should be a core strategy for developing an architectural understanding of birth space.

The findings show that when women prosume birth space, especially at home, clock time disappears from their birth stories. However, labouring women do not prosume space when they wait; as if both space and time are “frozen” within the lived spatial experience of labour and women sense they are “just passing time” before moving elsewhere in the future. Physical and social aspects of hospital spaces¹¹⁰ limit women’s opportunities for presumption and curation of any space they are given; it is common for women to describe their detachment from hospital spaces. This contrasts with the strong emotional response of home-birthing women to their birth spaces. The impact of this separation in birth spaces is the same regardless of whether a waiting space is designated as such (for example an assessment area) or perceived as such (for example, in the “wrong” birth room).

The common process of creating a physical space through architectural practice, divides into a phase of construction and a phase of use (De Carlo, 2013). This separation can create ‘manifestations of “disorder”’ (Ibid., p.21) for users; whose creative relationships with a space is likely to be thwarted by the motivations of the building client and architect that the material form represents (Ibid.). De Carlo observes that ‘the plan is usually conceived assuming that it is easier, quicker and more profitable to condition people than to condition the environment’ (Ibid., p.20) to the people. The thesis findings have shown that this way of conceiving space is the philosophy that informs current birth space design guidance.

One interpretation of the policy and practice context described in Chapter 2 is that of a story of the division of childbirth spatial practices into roles of producing space (healthcare workers and architects) and consuming space (women users and their families). Social theorists of production (Marx) and consumption (Baudrillard) are criticised for an either/or

¹¹⁰ For example, staff only areas, closed doors and social conventions such as a patient assuming they should lie on a hospital bed if one is provided.

focus on production/consumption. The major spatial theories of Lefebvre and Soja, which are the theories most commonly applied in critical spatial practices, share this Twentieth-Century division into production and consumption of space. Twenty-First Century theorists, by contrast, suggest that ‘the focus should *always* have been on the prosumer’ (Ritzer & Jurgenson, 2010, p.17).

For birth spaces to be created by women as prosumers, there is less of a need to involve users in the co-production of birth spaces, than a problem of rupture in the relationship between production and consumption of space. The practices that surround architectural practice and the delivery of maternity care are interpreted as the main cause of this rupture, since they favour the needs of the professional producer over the “amateur” creative prosumption of space by labouring women. As De Carlo notes ‘an architectural work has no sense if disassociated from [its] use’ (Ibid.,p.21).

Birth space as temporal and specific to *each* birth experience renders problematic women’s participation in ‘democratic spatial production’ (Petrescu and Trogal, 2017, p.7). Common models of user participation in design rely on the principle of consensus as ‘a desirable normative principle’ (Richardson and Connelly, 2005, p.77). Similar types of user groups are assumed to use space in similar ways, in order to make it possible to form a reasonable design brief that, in turn, can be created as physical spaces. Similarly, in maternity policy, co-production as group participation of users is considered a necessary part of woman-centred practices (Henshall et al., 2018). The question is whether a prosumption model for the production of birth spaces can create opportunities for appropriate co-production for maternity facilities, and broaden the definition of co-production more generally.

The current pattern of service user involvement in maternity facility design is usually a form of co-production which simply produces space based on the generic needs of labouring *women*; the women who co-produce or are consulted are not the *woman* who later labours and gives birth in the designed space. In current models of maternity facility design, midwives and obstetricians are privileged with the position of prosumer: they produce birth space in research and physical form, then *prod-use* these spaces by setting up and working in rooms with labouring and birthing women. Institutional birth spaces reflect this context but the theory developed in this thesis could fundamentally alter the status quo for the benefit of women.

The thesis findings show childbirth to be a complex multi-faceted spatial experience for a woman. In many respects birth space is not a material space; it exists through its

relationship with time, primarily through the time-bounded experience of labour, but also through its re-interpretation by a childbearing woman before and after a birth. Instead of existing, binary, “either /or” responses to birth spaces¹¹¹ the thesis calls for exploring the *prosumption* of birth space as a form of ‘altering’ architectural practice (Rendell, 2016; Petrescu, 2007). All the possible “other” spaces of birth need to be discovered through the “otherness” of combining disciplines, practices and theories, in order to dissolve existing boundaries. Birth space should be critiqued as ***all this***: prosumed space, curated space, a micro-managed technological room, “other” space, perceived space, relational space, embodied space, contested space.

12.5 THESIS CONTRIBUTION SUMMARY

The thesis contributes a new architectural understanding of birth space as a socially-structured spatial progression through time. Birth as an event is the catalyst for the creation of such space for women in the spaces they associate with labour, birth and the early days with their baby. Birth spaces exist in many different forms for women that reflect the many types of birth they experience. Such spaces are more social and relationship-based than implied by current policy and design guidance. Architecture and birth are both social processes and not the “scientifically-driven design process” of modernism (Simon, 1972) leading to a constructed building, or a clinically-managed “outcome”. Birth space architecture should be ‘a comprehensive method of thinking and action, expanding theoretical knowledge and practice into one activity that is embedded in its (social) context’ (Katoppo & Sudradjat, 2014, p.119; brackets in the original). When conceived as “just one room”, birth space lacks the spatial complexity that women need to self-manage their proximity to companions, and to self-direct the physical journey of their labour and birth experience. A philosophy of birth space design is needed that values people and spatial practices across venues and not the technical aesthetic aspects of a room.

Woman-centred space is a *prosumed* and *curated* spatial experience for women. The thesis offers evidence-based practical recommendations for design and a new paradigm for designing birth spaces as social space for women. It identifies theoretical challenges both with the use of binary schemas in extant research, and the simplistic use of concepts such as ‘homely’, safety and risk, and design as a technical tool in extant birth-environment

¹¹¹ For example: medical versus social models; home versus hospital venues.

research. Linked to this, the thesis demonstrates that spatial terminology for birth spaces within existing literature is used without shared meaning, resulting in a lack of coherent knowledge.

Birth stories are re-imagined in the thesis as spatial accounts through drawing as a qualitative visual research method. The extant separation of production and consumption of birth space is examined through analysis of documents, drawings and transcript data as 'semiotic materials' with visual and social meaning. The thesis is an exploratory and explanatory study grounded in interpreted spatial experience. The thesis is a localised study, and as DeForge and Shaw (2012) argue, the significant explanatory power of such a qualitative study can go beyond the local setting of the research. The interpretivist person-centred research philosophy grounded in the lived experience of giving birth has shifted the focus of this birth space study from averting risk to embodied experience. Thus, engaging with perception, movement through space, social connections, and labouring women's temporal "otherness" experience of space as potential inspiration for design.

For woman-centred design the architect needs to engage with the temporal and "other" space that this understanding represents. The way that the potential physical space is anticipated and interpreted by women and the lingering memories attached to the actual spaces of labour and birth need considering. Birth space is a creative spatial procession situated in a particular place: it is the temporal relationship between a woman's inner and outer worlds during childbirth.

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APPENDIX A

A.1 UK birth venues

To complete the picture of the practices surrounding present-day birth spaces, for their use and design, I summarise the types of birth venue available in the UK. Three types of birth venue are available:¹¹²

- A) consultant-led units (CLU)
- B) midwifery-units (MLU) or birth centres that are either sited alongside the CLU (ABC) or standalone (SBC)
- C) home

The UK has eligibility criteria for women's use of the different birth venues. Women who are considered at high-risk for birth have a restricted choice and use of birth spaces and are recommended to birth in a CLU. These are women with:

- a pre-existing medical condition (for example: cardiovascular, respiratory, immunity, psychiatric)
- previous complications in birth (for example: unexplained stillbirth, pre-eclampsia)
- a complication in a current pregnancy (for example: placental abnormalities, a multiple birth, gestational diabetes) (NICE Guideline, 2014)

Women who do not have these risk factors are deemed to be low-risk for birth and have more venues available to them. Some scholars propose that the sheer number of possible risks mean that many more women are deemed high-risk than might be necessary (Walsh, 2006a). Furthermore, conditions included amongst the high-risk categories are sometimes viewed by midwives as a variation of normal birth, for example a twin birth.

These birth venues are usually described by the type of care offered rather than the building typology but each is usually associated with distinctive and different physical spaces. I summarise these below, and discuss relevant maternity practices that impact on building usage.

A) Consultant-led Unit (CLU) or hospital venue

This is the most common type of birth space for women to use in the UK and all women can self-refer to a CLU. The physical size of the building is large (catering for around 5-8000 births per year). Specialised suites of rooms provide the setting for maternity care: delivery suite, dedicated operating theatres, special care baby unit, antenatal and postnatal wards. All usually co-located for prompt emergency access and efficiency of operational

¹¹² Some literature describes four venues since a midwife-led unit can be alongside or standalone from a consultant-led unit.

management. Since a CLU is often only part of a hospital building, labouring women need to negotiate general hospital spaces (lifts, stairs, reception areas and public spaces) before arriving there. Access to different parts of the building is controlled. Women can walk between an antenatal ward and a labour ward, but have to be transferred by staff between other spaces, say, between a labour ward room and an operating theatre.

The care model is predominately medical with consultant obstetricians leading clinical teams and the building is often a centre for training and teaching and provides specialised care for women with 'high risk' pregnancies or expecting a complicated birth. Anaesthetists and anaesthetic pain management is available during labour.

B) Midwife-led Unit (MLU) or Birth centre (ABC or SBC)

A physically and organisationally small maternity unit catering for 50-2000 births per year with fewer women using a birth centre at any one time compared to a CLU. Midwives lead the care team and women can self-refer if they meet the criteria for a low risk pregnancy and expect a normal birth. Women are encouraged to use self-help techniques for labour. There is only access to anaesthetic pain management, dedicated operating theatres, special care baby unit, antenatal and postnatal wards if a woman transfers to a consultant-led unit.

C) Home

Birth may only take place once or twice in a woman's home. The care team is led by midwives, often members of a dedicated home birth team specialising in care for women with 'low risk' pregnancies and normal births. Women are encouraged to use self-help techniques for labour. If a woman transfers from home to a CLU this is by ambulance. Women can self-refer and opt out of the NHS Trust in some regions of the UK for home birth (for example using the One-to-one Midwife service in the Wirral - www.onetoonemidwives.org). A woman can have as many birth supporters as she wishes and controls when the midwife enters the space. If the midwives attending are employed by an NHS Trust, their care may be more medicalised as part of the broader medical model adopted by the NHS Trust.

A.2 Sample pages from the AEDET Evaluation Tool

(NHS Estates, 2008)

IMPACT: Character and innovation

The four IMPACT sections deal with the extent to which the building creates a sense of place and contributes positively to the lives of those who use it and are its neighbours.

Section A deals with the overall feeling of the building. It asks whether the building has clarity of design intention, and whether this is appropriate to its purpose. A building that scores well under this heading is likely to lift the spirits and to be seen as an exemplar of good architecture of its kind.

ID	Description	Weighting	Score	Notes
A.01	There are clear ideas behind the design of the building	Normal (1) ▼	Select... ▼	
A.02	The building is interesting to look at and move around in	Normal (1) ▼	Select... ▼	
A.03	The building projects a caring and reassuring atmosphere	Normal (1) ▼	Select... ▼	
A.04	The building appropriately expresses the values of the NHS	Normal (1) ▼	Select... ▼	
A.05	The building is likely to influence future designs	Normal (1) ▼	Select... ▼	

◀ Project workshop setup ▶▶ Results summary and export Form and materials ▶

Note: To view the guidance level for any statement click on the expansion button in the margin to the left of the statement ID.

IMPACT: Staff and patient environment

Section C deals with how well an environment complies with best practice as indicated by the research evidence.

ID	Description	Weighting	Score	Notes
C.01	The building respects the dignity of patients and allows for appropriate levels of privacy and dignity	Normal (1) ▼	Select... ▼	
C.02	There are good views inside and out of the building	Normal (1) ▼	Select... ▼	
C.03	Patients and staff have good access to outdoors	Normal (1) ▼	Select... ▼	
C.04	There are high levels of both comfort and control of comfort	Normal (1) ▼	Select... ▼	
C.05	The building is clearly understandable	Normal (1) ▼	Select... ▼	
C.06	The interior of the building is attractive in appearance	Normal (1) ▼	Select... ▼	
C.07	There are good bath/toilet and other facilities for patients	Normal (1) ▼	Select... ▼	
C.08	There are good facilities for staff, including convenient places to work and relax without being on demand	Normal (1) ▼	Select... ▼	

◀ Form and materials ▶▶ Results summary and export Urban and social integration ▶

A.3 Sample sheet from NCT Creating a better birth environment audit tool
(Newburn & Singh, 2003a)

Creating a Better Birth Environment						
Area / room / ward:						
Audit completed by:					Date:	
Aspect	Standards	Score 2	Score 1	Score 0	Total score	Comments
Cleanliness	Clean	Completely clean. Bins empty	Reasonably clean. Bins empty	Dirt / waste / blood stains visible		
Decoration	Nicely decorated	High standard, well coordinated	Attractive, some wear and tear	Unattractive, shabby, or not coordinated		
Room quality	Homely looking Drink and snack facilities	Furnishing to good domestic standard, tea making facilities in room	Some institutional furniture, some visual interest, shared kitchen	Institutional furniture, dreary looking, vending machine in corridor		
Furnishing	Comfortable bed Comfortable chair	Comfortable, adjustable wide bed, plus at least one good armchair	An adjustable bed and upholstered chair	High or narrow bed that is not comfortable. Hard chair or no chair		
Space	Able to move / walk Able to move the furniture Pleasant place to walk	Good-sized individual room; bed at one side, or moved out if not required. Easy access to pleasant place to walk	Space not dominated by bed. Bed removed or pushed to one side. A place to walk about.	Limited space with bed(s) taking up most of the available room. Nowhere to walk about.		
Toilet	Easy access to a toilet	Sole use of en suite toilet	Toilet shared with one other room	Toilet shared and accessed via corridor		
Water	Easy access to: - shower - bath - pool	Birthing pool in room or en suite	Large bath or shower in room or en suite	No direct access to shower, bath, or pool		
Privacy	Not overlooked Not overheard No uninvited guests	Private space. Good sound insulation. Full respect for privacy	Not over-looked, but screening of door / window / guests could be improved	Sharing with others. Many people enter room. Could be overheard		
Control	Lighting Heating	Adjustable low level lighting and heating. Airy	Either heat or lighting adjustable, but not both	Overhead lighting / no control over heating		
Labour aids	Pillows, mats, bean bags	Pillows, mats birth ball, shelves beanbags	Pillows, plus some other comfort aids	Not enough pillows. No comfort aids visible		
Total Points (maximum 20)						

A.4 A comparison of medical and social models of childbirth (Walsh & Newburn, 2002a)

Beliefs about childbirth:	
Medical Model	Social Model
Medical event	Life event
Safe place (hospital)	Safe place (home)
Professional care	Support from friends
Technology	Nature
Control	'let go'
Analyse/solve	Mystery/respect
Beliefs about women users:	
Medical Model	Social Model
Professional/woman balance	Woman focus and centre
Implied consent	Explicit consent
Guided choice	Informed choice
Control with boundaries	Respects complete autonomy of woman
Relationship incidental to care	Relationship central to care
Beliefs about obstetrics: the role of an obstetrician (doctor)	
Medical Model	Social Model
Set parameters for normal	Referral to by woman or midwife
Overseer/strategic/surveillance role	Role in response to need
Essential part of team	Optional part of team
Fetal 'champion' – concerned for the baby	Additional specialist skills
Beliefs about midwifery: the role of the midwife	
Medical Model	Social Model
Expert in normal	Guardian of normal
Assists obstetrician	Collaborates with obstetrician
Advisor to women	Partner with women
Mediate	Advocate
Employee of Acute Trust	Self-employed, employee of Primary Care Trust
'Detached professional' relationship with woman	Professional 'friend' of woman
The midwife/woman relationship:	
Medical Model	Social Model
Incidental to professional care	Informal, personal, reciprocal
Director	Facilitator
Leader	Follower
Surveillance	'Skilled companionship'
'Doing to'	'Being with'
Busy-ness	'Masterly inactivity'

APPENDIX B


B.1 Some key evidence and discussion for areas of interest for evidence-based healthcare architecture research.

Infection control	
Investigations of surface treatments relative to their ability to spread infection.	Research looking specifically at wall finishes, furniture covering materials (Lankford et al., 2006; Noskin, Bednarz, Suriano, Reiner, & Peterson, 2000), metals (Noyce, Michels, & Keevil, 2006), sinks etc. and how they aid environmental contamination.
Proper cleaning and disinfection	Materials selected for their ease of cleaning and type of cleaning product that is effective (Aygün et al., 2002; Barker, Vipond, & Bloomfield, 2004; French et al., 2004)
Waterborne infection transmission	Particularly relevant for the design, installation and maintenance of hospital birthing pools. Research looks at flow of water, temperature and chemical treatment of water to prevent transmission of infections across buildings (Sehulster et al., 2004).
Single bed rooms and infection transmission	Single-bed rooms and isolation of patients reduces transmission of infection. Research looks at associations with the occupancy of rooms and the mechanisms that enable transmission of infection (Chaudhury, Mahmood, & Valente, 2005; Dettenkofer et al., 2004)
Medical errors	
Evidence for noise, light and “acuity-adaptable, single-patient rooms” (Ulrich et al., 2008, p. 23) as environmental factors in medical errors.	
Lighting levels	Medical-dispensing errors reduced when lighting levels for work surfaces is sufficiently high (Buchanan, Gibson, Jiang, & Pearson, 1991). Relevant for midwife work areas in birth rooms.
Acuity-adaptable, single-patient rooms	Rooms which are equipped so that a patient does not need to transfer for further treatment. These reduce medical error because transfer between rooms or units is known to increase medical error (Hendrich, Fay, & Sorrells, 2002)
Noise	Studies on the effect of distraction such as a phone call on medical errors (Kistner, Keith, Sergeant, & Hokanson, 1994) and noise in operating theatres (Beyea, 2007).
Patient safety, falls and manual handling	
Patient falls	Research recommends design strategies for regular or continual observation of patients to minimise patient falls when getting out of bed unassisted or unobserved (Hanger, Ball, & Wood, 1999; Udén, 1985; Vassallo, Azeem, Pirwani, Sharma, & Allen, 2000). Minimising of trip hazards and ease of access to bathrooms (Morse, 2008)
Daylight, nature and experience of pain	
Nature and pain Seeing and hearing nature	Exposing patients to nature can produce substantial and clinically important alleviation of pain (Malenbaum, Keefe, Williams, Ulrich, & Somers, 2008; Ulrich, Zimring, Quan, & Joseph, 2006). Designs recommendations are to harness views of nature and daylight. Ulrich recommends window views in procedure, treatment and waiting spaces. Implications for overall building orientation and site-planning so that pain-relieving views and daylight are maximised (Malenbaum et al., 2008). Visual distraction of nature in the environment reduces pain (McCaul & Malott, 1984). Sound of nature also enhances the effect of nature on pain (Diette, Lechtzin, Haponik, Devrotes, & Rubin, 2003; Malenbaum et al., 2008)
Biophilia, stress and healing environments	
Patient stress major problem in healthcare facilities (Ulrich et al., 2008, p. 36)	
Biophilic design	Wilson’s hypothesis (1984) that humans have a partially genetic attraction to nature. Ulrich comments, “these theoretical arguments have a practical design implication which is that designing healthcare buildings with nature features may harness therapeutic influences that are carry overs from evolution, resulting in more restorative and healing patient settings.” (Ulrich et al., 2008)
Artwork and pictures of nature	Studies on patient preferences for art (Eisen, 2006; Hathorn & Nanda, 2008; Nanda, Hathorn, & Newmann, 2007). These tend to be sparse and criticised for not being rigorous since their methods include gathering opinions and preferences of patients (Ulrich et al., 2008). Also reveals that researchers mostly understand of the aesthetic qualities of a building as surface-treatments to walls etc.

Gardens	Studies on the impact of gardens on the well-being of inpatients, showing the benefit of garden spaces (Sherman, Varni, Ulrich, & Malcarne, 2005; Whitehouse et al., 2001). Methods use consumer satisfaction indicators and user preference post-occupancy surveys and so again not seen as rigorous studies as methods perceived as more scientific.
Daylight, nature and recovery time	
Mental health recovery and daylight	Some studies completed looking at daylight exposure and mental health improvements (Beauchemin & Hays, 1996; Benedetti, Colombo, Barbini, Campori, & Smeraldi, 2001; Beute & Kort, 2014)
Views of nature and recovery time	Reduced hospital stays from access to a window with a view. Ulrich's classic study showed patients with a window view recovered from surgery quicker than those looking at a blank wall (Ulrich, 1984).
Wayfinding	
Large body of literature on this aspect of healthcare design recognising that outpatients are unfamiliar with buildings and that hospitals are complex buildings (Ulrich et al., 2008, p. 45)	
How people find their way through hospital buildings	Studies look at the overall structure of the systems of rooms and corridors that affect the routes that users take (Carpman & Grant, 2016; Haq & Zimring, 2003; Peponis, Zimring, & Choi, 1990)
Privacy and confidentiality	
There is space research in this area with an environmental or design focus. Research that does exist focuses on speech privacy (Ulrich et al., 2008, p. 48)	
Speech privacy	Research looks at the configuration of rooms, single-bed rooms and curtained bays in relation to overhearing of conversations, mainly in relation to confidentiality of health professional consultations with patients, rather than patients overhearing other patients (Barlas, Sama, Ward, & Lesser, 2001; Karro, Dent, & Farish, 2005). Much of this research conducted in emergency wards. Research looks at materials studying sound absorption, speech intelligibility and propagation of voices and sounds (Hagerman et al., 2005; Philbin & Gray, 2002) Joseph and Ulrich recommended the provision of separate discussion rooms for consultations (Joseph & Ulrich, 2007).
Communication	
This is a key focus of patient-centred or family-centred care: good communication with health professionals, research links this to whether a patient feels socially supported and patient satisfaction (Holden, Harrison, & Johnson, 2002; Verhaeghe, Defloor, Van Zuuren, Duijnste, & Grypdonck, 2005).	
Room type and lighting	Studies were conducted to assess whether communication was better in single verses multibed rooms, and whether changing environmental factors such as lighting levels impacted on the quality of communication. These mostly focused on counselling rooms and counselling situations rather than hospital rooms (Gifford, 1988; Miwa & Hanyu, 2006; Okken, van Rompay, & Pruyn, 2013).
Social support from nurses and family	
Presence of family helped patients to deal better with treatments and facilitated clinical progress (M et al., 2007)	
Role of environment in facilitating family support	The research in this area is quite old but looks at (Holahan, 1972; Ittelson, Proshansky, & Rivlin, 1970; R Sommer & Ross, 1958; Wolfe, 1975) Waiting room chair layouts and layouts for dining rooms (Melin & Gotestam, 1981; Peterson, Knapp, Rosen, & Pither, 1977). Single rooms have been shown to encourage family members to be supportive (Chaudhury, Mahmood, & Valente, 2003).
Patient satisfaction	
Patient survey and feedback	"Strong evidence that design changes that make the environment more comfortable, aesthetically pleasing, and informative relieve patient stress and increase satisfaction with the quality of care." (Ulrich et al., 2008) Introduction of Friends and Family Test in hospitals and the idea that patients choose their hospital and recommend to others (Harris, McBride, Ross, & Curtis, 2002; Hutton & Richardson, 1995; Swan, Richardson, & Hutton, 2003).

APPENDIX C

C.1 Letter confirming NHS ethical approval for the empirical study

		
		Health Research Authority
		NRES Committee South Central - Oxford C
		Level 3, Block B Whitefriars Building Lewins Mead Bristol BS1 2NT
		Telephone: 0117 342 1387
 12 November 2014		
 Mrs Sarah J Joyce PhD student University of Sheffield School of Architecture The University of Sheffield Arts Tower Western Bank S10 2TN		
 Dear Mrs Joyce		
Study title:	Creating birth spaces from women's experiences of birth. A qualitative study of how women use space for labour and birth in different birth settings.	
REC reference:	14/SC/1388	
Protocol number:	n/a	
IRAS project ID:	157602	
 The Proportionate Review Sub-committee of the NRES Committee South Central - Oxford C reviewed the above application on 12 November 2014.		
We plan to publish your research summary wording for the above study on the NRES website, together with your contact details, unless you expressly withhold permission to do so. Publication will be no earlier than three months from the date of this favourable opinion letter. Should you wish to provide a substitute contact point, require further information, or wish to make a request to postpone publication, please contact the REC Manager Mr [REDACTED] nrescommittee.southcentral-oxfordc@nhs.net.		
Ethical opinion		
On behalf of the Committee, the sub-committee gave a favourable ethical opinion of the above research on the basis described in the application form, protocol and supporting documentation, subject to the conditions specified below.		
With the Committee's best wishes for the success of this project.		
14/SC/1388		Please quote this number on all correspondence
Yours sincerely		
<div style="background-color: black; width: 200px; height: 30px; margin-top: 10px;"></div>		
 PP		
<div style="background-color: black; width: 100px; height: 15px; margin-top: 10px;"></div>		
Chair		
Email: nrescommittee.southcentral-oxfordc@nhs.net		

C.2 Drawing analysis questions used at the end of each interview

Site of drawing production:

- Do you think doing the drawing task at home had any effect on how you drew or remembered the spaces?
- If a home birth did being in the space make it easier to draw the spaces? If a hospital birth did it make it more difficult or not have an effect?

Production of drawing:

- As you were drawing how did you decide the way you drew it? [EG. As plans, or from a particular perspective]
- Was there any significance in the colours you used or when you chose different colours? Do different colours signify anything?
- Have you drawn some things in a symbolic way which shows how you felt about that part of the space?

Audience for your drawing:

- When you were drawing, did you think about putting down as much of your experience as you could remember or did you filter it in any way to fit with the idea of looking at birth spaces?
- Were you 'just telling your story' or did you have a sense that other people would learn from your experience?

C.3 Analysis of online birth stories as preparatory work for interviews

There are a number of UK¹¹³ birth story websites. I focused on longer stories that would give richer description and more likely to contain details of the birth space; other stories were more 'journalistic' and like dramatised sound bites. This initial search also evidenced my hypothesis that women remember the experience using the language they have readily available. On *Netmums*, *Mumsnet* (websites run by parents) and *Emma's Diary* (run in association with the Royal College of General Practitioners), women often describe their births using medical terms.

There were enough suitable online birth stories (24 in number) on *Tellmeagoodbirthstory.com* which included descriptions of the birthing environment. Stories on this website did not follow the social convention of dramatic storytelling for birth and women wrote for an audience of expectant mothers in order to reassure, inspire and foster beliefs that they can have a positive birth. Spatial content only came into the longer re-tellings of birth, and most were long between 3-6 A4 pages in a Microsoft Word document.

¹¹³ I looked at UK websites for content relevant to the thesis research.

There was a mix of environments for birth: at home, in a birth centre or in hospital; not all the births were straightforward, some were caesarean births. Noteworthy for my study, women described their home environment regardless of where birth happened. Implying that, the use of the home environment in labour was important to women even when not planning to give birth at home. Women often contrasted their home and the hospital environment stories. This clarified the value for women of not just focusing on the experience in the birth room. Spatial referencing was patchy and not the focus of these stories. I concluded from this analytical exercise that the required data would need a tailored re-telling of a woman's birth story actively focusing on the birth spaces.

C.4 Sample PIC contact log sheet

Aven Contact Log			
Contact via:			
First Name Only	Preferred contact method		
Activity	Date	Notes	PI signed & dated
First contact			
Assign PIC			
Sent IS & CF			
Follow up on IS & CF			
Arrange interview			
Interview		Location notes here	
Write reflective field notes (no identifiable personal data inc.)			
Transcribe interview tape			
Removal of any identifiable personal data on this contact sheet			
Removal of any identifiable personal data on drawing			
Removal of any identifiable personal data on transcript			
Analysis of transcript			
Analysis of visual data			
Secure storage of data in site file			
			I

C.5 Recruitment material for the empirical study

POSTER (A4 and A3) AND SIMILAR IMAGE SHARED ON SOCIAL MEDIA

This poster was displayed in maternity hospital waiting rooms.



where I gave birth

Was your baby born in **Leeds or Bradford in 2014/15?**

You are **invited** to take part in these **interviews** looking at the **design of birth spaces**.

We would like to hear from women who have given birth in the **birth centre, active birth rooms, labour ward of local hospitals** or at **home**.

To take part please contact Sarah Joyce:
sjjoyce1@sheffield.ac.uk or 0333 600 4201

You can contact us before your baby is born. Interviews will take place when your baby is between 3 - 12 months old at a venue of your choice, with Sarah as part of her PhD research.

The University Of Sheffield.
 Scan QR code for website or go to www.natalspace.wordpress.com/research-study-in-leeds-and-bradford/

POSTCARD



Can you help us understand better?

We want to learn how women use rooms and space during labour, and know what was important to them when their baby was born.

If your baby was born in 2014/15 in Leeds or Bradford,* we invite you to take part in an interview to share your experience.

*in any hospital setting or at home

Please **attach a stamp and pop this in the post** if you would like to know how to take part.







Name..... **Contact tel**.....

Contact email.....

Alternatively you can phone Sarah Joyce on 0333 600 4201, email at sjjoyce1@sheffield.ac.uk.
 scan QR code or go to www.natalspace.wordpress.com/study-in-leeds-and-bradford/ for more information.

ver1 (08/10/2014)

C.6 Information sheet and consent form for the empirical study

<p> The University of Sheffield</p> <p> NHS Teaching Hospitals</p> <p> SSoA</p> <p>Information for research participants</p> <p>Creating birth spaces project</p> <p>Name of researcher: Sarah Joyce</p> <p>You are invited to take part in this research project investigating how women use different spaces for labour and birth. This sheet gives you information on why the research is being done and what it will involve if you choose to take part. Please take your time to read it and ask us if there is anything that is not clear or you would like more information. You may also wish to discuss it with others before deciding whether or not you wish to take part. Thank you for taking the time to read this.</p>	<p>What is the purpose of the project?</p> <p>The research is part of a three-year educational PhD by Sarah Joyce, a local architect and antenatal teacher for the NCT Charity. She has four children who were born locally. She is researching how women use spaces for childbirth by interviewing women who have recently had a baby. The research looks at how women experience different settings for their labour and birth.</p> <p>The study aims to identify aspects of these spaces that are important to women. Ultimately this will help designers to better understand the types of rooms and spaces women prefer for childbirth. The research is focused on the communities of Bradford and Leeds, and the experiences and backgrounds of families in your area.</p> <p>Why would you like me to take part?</p> <p>The study is recruiting women who have given birth in the [redacted] areas. The research is looking at the possible places used for labour and birth in this area. This includes home, [redacted]</p> <p>Do I have to take part?</p> <p>No, it is your choice whether or not to take part. If you do decide to take part you will be given this information sheet to keep and asked to sign a consent form. You can still withdraw at any time without it affecting any future maternity care or any benefits you are entitled to, in any way. You do not have to give a reason for not taking part.</p> <p>What will I be asked to do if I choose to take part?</p> <p>You will be asked to sign a consent form. Sarah will contact you to arrange a convenient time and place for her to interview you. The interview is likely to take one and a half hours in total and to be completed in one session, but can be done in more than one if you would find this helpful. During the interview you can decide to take a break and arrange to complete it at another time.</p> <p>You can choose where you want the interview to be and you are welcome to have your baby with you.</p> <p>In the interview you will be asked to recall the places you used for your most recent story of giving birth. The focus of the interview will be to create a drawing or 'map' of the spaces and rooms used for labour and birth, starting with the actual place of birth and then exploring other spaces used. Materials will be provided to help you do this and no artistic skill is required to take part!</p> <p>Some simple line drawings and phrase cards will be shown to you to aid your memory in creating a picture. The line drawings are of postures a woman might adopt in labour. The phrases are simple statements such as 'my baby was born here' or 'I met my midwife here.'</p> <p>If you know of an image that helps you recall the spaces you used for the birth of your baby, you can bring that to the interviews too. This last part is optional and something you need only do if something comes to mind.</p> <p>It is not possible to provide expenses for childcare but you are welcome to bring your baby.</p>	<p>What type of information about me is the research looking for?</p> <p>The research aims to find out how women use spaces for labour and birth. The information might include: how you felt and experienced the spaces; how you moved around or felt restricted by a room; the effect of the spaces on your experience of labour. The information will be recorded as a large drawing or map of spaces which will be talked about during the interview.</p> <p>Will my taking part in this project be kept confidential?</p> <p>All information collected during this study will be kept strictly confidential. You will not be able to be identified in any publications or in the PhD thesis document.</p> <p>What you say is an important part of the interview and because of this the conversation will be recorded using a voice recorder. The interview will then be typed up and all names and identifiable information will be removed so that you cannot be recognised. Once this has happened, the recording will be deleted. We may wish to quote some of the things you said during the interview in the reports that will be produced from the study, but no one will be able to identify you from your words.</p> <p>Whilst you are creating the drawn map during the interview, photographs will be taken to record it digitally for future analysis. These will be taken carefully in order to not identify you and so that there are no people in the photographs. The drawn map and photographs may be used in reports and the thesis document. These will be carefully prepared so that anything that could identify you is removed before it is published.</p> <p>If you describe rooms in your home that you used for labour or birth, we would like to take a photograph to help compare your understanding of the space in labour with the actual space. This will only be done with your permission and will only record the space without people in it. If you prepared a room for labour and birth, for example with a birthing pool and have a photograph of this already, we may ask if we can take a copy.</p> <p>Are there possible disadvantages for me in taking part?</p> <p>We do not foresee any disadvantages to you from taking part in this study.</p> <p>Are there possible benefits for me in taking part?</p> <p>You will not benefit immediately or directly from taking part in this study. You may enjoy the experience of retelling your experience of birth knowing that this research could lead to improvements in maternity services locally and around the UK. We hope that a better understanding of how women use birth spaces will benefit women who have babies in the future.</p> <p>What if I am unhappy about taking part, or wish to stop?</p> <p>In the unlikely event that you become upset or distressed you may withdraw at any time. You do not need to give a reason. You will have the right to stop the voice recorder at any point, and to have the recording deleted, without giving any reason.</p> <p>If you wish to raise a complaint, in the first instance, please contact Sarah Joyce or one of her University of Sheffield PhD supervisors using the contact details at the bottom of this information sheet.</p> <p>If as a result of taking part, you feel you need to talk through your maternity care you may wish to contact a Supervisor of Midwives:</p> <p>[redacted] a supervisor of midwives can be contacted by ringing [redacted] between 8.30-4.20pm Monday-Friday or the hospital switchboard at other times: [redacted]</p> <p>[redacted] a supervisor of midwives can be contacted by 24 hours a day by ringing [redacted]</p>	<p>You may also find it helpful to contact the PALS (Patient Advice and Liaison Service) coordinator at either hospital for additional support.</p> <p>PHD Researcher: Sarah Joyce, Sheffield School of Architecture (SSoA)</p> <p>INFORMATION SHEET FOR WOMEN VERSION 4 (13/11/14)</p> <p>PAGE 1 OF 3</p>
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Consent form

Creating birth spaces project





Name of researcher: Sarah Joyce

Please initial box if you agree

- I confirm that I have read and that I understand the information sheet dated 13th November 2014 (version 4) for the Creating birth spaces project. ☐
- I have had the chance to ask questions about the project. ☐
- I understand that it is up to me whether or not I take part and that I can stop at any time without needing to say why. ☐
- I understand that what I create in the interview and my interview responses will be kept strictly confidential. ☐
- I understand that I will not be identified in any reports or publications arising from this research. I understand that several photographs of the drawing/mapping will be taken as it is drawn and these will be taken in a way which does not identify or include me. ☐
- I give consent for anonymised quotes from my interview to be used in reports or publications arising from this research. ☐
- I give consent to having my interview recorded using an audio recorder. ☐
- I agree to take part in the project. ☐

This last section is **only to be completed if you gave birth at home** and is not relevant if you gave birth elsewhere.

- I understand that the researcher may take a photographic or drawn record of spaces I describe in my home. These photographs will not identify or include any people. This will only be done after seeking my permission at the time. ☐

What will happen to the results of the research project?

The results of the research will be published in a PhD thesis document. You are welcome to read a summary sheet of the findings after the completion of the PhD. They may also be presented at conferences or published in journal articles and lead to further research.

The findings may be shared with maternity professionals and service users through the Maternity Services Liaison Committee [REDACTED]

After the study has finished, the anonymised, typed interviews and drawings will be stored in a secure archive at the School of Architecture in Sheffield for ten years. This will not happen until they have been thoroughly checked to make sure that no information that could identify you remains. They may be used for future research.

Who is organising and funding the research?

The research is organised and funded by the University of Sheffield and based in the School of Architecture.

Who has ethically reviewed the project?

A favourable ethical opinion has been received from South-Central Oxford C REC and it is supported by the [REDACTED] Teaching Hospitals NHS Foundation Trust and [REDACTED] Teaching Hospitals Trust.

Contact for further information

Sarah Joyce [REDACTED]

PhD Supervisors:
 Dr Rosie Parnell [REDACTED]
 Professor Penny Curtis [REDACTED]

Name of Participant	Date	Signature
Sarah Joyce		
Lead Researcher		

Participant Identification Code for this project: [REDACTED]

Thank you for reading this and for considering taking part in the study.

PhD Researcher: Sarah Joyce, Sheffield School of Architecture (SSoA)
 INFORMATION SHEET FOR WOMEN: VERSION 4 (13/11/14)

PAGE 3 OF 3

Copies: 1 for participant; 1 for researcher; 1 to be kept with project site file
 Version 4 (13/11/14)

C.7 Interview schedule

INDICATIVE APPROACH TO DRAWING OUT A BIRTH EXPERIENCE

- I explained to the participant that she will be drawing a map of her chosen experience of labour and birth.
- This began by focusing on the space where her baby was born. From the PPI workshop, it was noted by participants that this was the easiest place to draw and the one they could remember most vividly. I suggested the participant draws the room or space where the birth took place. The aim of the conversation for this part is to describe this space as fully as possible, but also for me not to lead the conversation to consider any particular aspect of the space.
- After this, the sequence of spaces leading to this room was explored to the same level of detail, as she directs. The number of other spaces drawn will depend on the events of her labour and her ability to remember. The aim of the conversation for this part was to fully record each space but also consider how the spaces relate to each other.
- At an appropriate point, when it feels she needs some additional input into the recording process, the stickers were offered for her to place appropriately.
- There were multiple copies of each sticker so that she could repeat them as often as she wished across the drawing. She could indicate change and movement by drawing connecting arrows between stickers. The drawing was also photographed at regular intervals to record how the drawing(s) developed. The photo could be referenced to the audio recording since both this and the camera recorded the time.
- She was encouraged to write notes too as reflections on feelings, companions, textures, lighting, furniture, size and sequence of moving through rooms etc. as relevant to her experience.
- She had the opportunity to reflect over the map several times, in order to add detail as it was remembered.
- When she felt the drawing was complete, I asked if she was happy with this representation of her experience or wanted to talk about any parts. At this point, any difficulty in remembering spatial information at different points of labour was discussed.
- Finally, I asked her questions about how she approached the drawing task. For example why she did, or did not use colour, the viewpoint she chose and any parts that were easier or more difficult to draw rather than describe. These questions were scripted so that I ask the same questions for all the women, unless they were obviously redundant.
- For women who did not give birth at home, I showed the photo albums for the birth venue where she gave birth and we looked at the floor plans to elicit more detail on what was important to her in the spaces.
- The drawing may represent a full retelling of a birth story or a partial one, depending on the number of spaces a participant experienced and where the birth took place. For example when labour was induced, or was a home birth, the spaces used were sometimes very close to each other and it may make sense to continue the drawing process back in time to the point of labour starting (having started the activity from the place of birth). For another experience, the participant decided it was appropriate to record the experience from the arrival at the birth setting, for example arrival in a hospital car park.

APPENDIX D

D.1 Summary table of the women's drawings of the birth venues

Key


Column A: H = home; CC = Children's Centre

Column B: Y = yes; N = no

Column E/F: C = induced on a ward so early and late labour spent in the same spaces

Column K: A = She only drew stick people in operating theatre; B = only the dog!

 Woman was static for the birth (may have been mobile at different times)

 Woman was mobile for the birth (or choosing her own static position)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
	Interview			Room order of drawing				Number of sheets used for drawings	Drawing Characteristics					
	Woman's choice of venue	With children	Interview length (mins)	Birth room	Rooms used in early labour	Rooms used later in labour	After the birth		Top-down / Plan / Layout	A view or a scene	People shown as stick people	Drew herself in the room	Story board	Showed movement
Aven	H	Y	46	1		2		1	x					
Briony	H	N	94	1		2		2	x	x	xA			
Cassia	H	N	47	1		2	3	1	x		xB			x
Daphne	H	Y	57	1	2	3		2	x		x	x		x
Encina	H	Y	65	1	2	3	4	3	x	x				x
Felicia	H	Y	95	1		2	3	2	x					x
Gardenia	H	Y	83	1	2	3	4	1	x					
Heather	H	Y	106	1	2C			3	x	x				
Iris	H	Y	67	1	3	2		2		x	x	x	x	x
Jasmine	H	N	108	1	2	3		1	x					
Kerria	H	Y	63	1		2		2	x	x				
Lily	H	Y	99	1	2	3		2	x		x			
Mazus	CC	Y	39	1	2			2		x	x	x	x	x
Nikko	H	Y	54	1	2	3		1	x					
Oleander	H	N	67	1	2	3		3	x					x
Peony	H	Y	79	1		2		2	x	xA	xA	x		
Quassia	H	Y	100	1	3	2		4	x					
Rose	H	Y	102	1	3	2		2	x	x	x	x		
Sage	H	Y	95	1		2		2	x	x				
Torenia	H	Y	57		2	1		1	x					
Urbinia	H	Y	116	1		2		2	x					x
Vitex	H	Y	80	1	3	2		3	x					x
Willow	H	N	75	1		2		1	x					x
Yarrow	H	N	88	1	2C			2	x		x			